TRANSCRIPT OF PROCEEDINGS

In the Matter of:)
)
COAL DIESEL PARTICULATE EXPOSURE)
OF UNDERGROUND COAL MINERS)

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UNITED STATES DEPARTMENT OF LABOR
MSHA

COAL DIESEL PARTICULATE EXPOSURE)
OF UNDERGROUND COAL MINERS)

Room 250-7
Salt Palace Court Center
100 S.W. Temple
Salt Lake City, Utah

Tuesday,
November 17, 1998

The hearing began, pursuant to notice, at 9:00 a.m.

BEFORE: THOMAS TOMB, Moderator

APPEARANCES:

PAMELA KING
SANDRA WESDOCK
JON KOGUT
ROBERT THAXTON
ROBERT HANEY
GEORGE SASEEN
RONALD FORD

PANELISTS:

MICHAEL PEELISH
DAVID BEERBOWER
NATIONAL MINING ASSOCIATION

JAMES CEAL, Local 2176
BRAD ALLEN, Local 1984
UNITED MINE WORKERS OF AMERICA

ENERGY WEST MINING COMPANY

P R O C E E D I N G S

MR. TOMB: I guess about everybody has arrived and I'd like to get started. I want to welcome you all here to this hearing. My name is Thomas Tomb and I'm Chief of the Dust Division of MSHA's Pittsburgh Safety & Health Technology Center in Pittsburgh, Pennsylvania, and I will be the moderator of this public hearing on MSHA's proposed rule addressing Diesel Particulate Matter Exposure of Underground Coal Miners.

I have a short statement here that I would like to read into the public record before we get started. Personally and on behalf of Assistant Secretary Jay Devitt Lagatier, I would like to take this opportunity to express our appreciation to each of you for your being here today and for your input.

With me on the panel today from MSHA are Jon Kogut, from the Office of Program Evaluation and Information Resources, Denver, Colorado. We have George Saseen from the Approval and Certification Center in Tridelphia, West Virginia; Robert Haney, who is the Chief of the Environmental Assessment and Contaminant Control Branch in the Pittsburgh Safety & Health Technology Center in Pittsburgh, Pennsylvania. We have Sandra Wesdock from the Office of the Solicitor in Arlington, Virginia. We have Robert Thaxton from the Coal Mine Safety and Health, Health

Division in Arlington, Virginia and we have Ronald Ford and Pamela King from the Office of Standards, Regulations and Variances in Arlington, Virginia.

In the audience, we also have several people from Arlington. That is, Carol Jones, who is the Acting Director of the Office of Standards, Regulations and Variances, and Deborah Jones -- Green, I'm sorry, Deborah. I'm glad you can't talk today, now. Deborah Green who is with the Office of the Solicitor in Arlington. Can you correct that in your transcript?

(Laughter.)

MR. TOMB: This hearing is being held in accordance with Section 101 of the Federal Mine Safety and Health Act of 1977. As is the practice of this Agency, formal rules of evidence will not apply.

We are making a verbatim transcript of this hearing. It will be made an official part of the rulemaking record. The hearing transcript, along with all of the comments that MSHA has received to date on the proposed rule will be available for your review.

If you want to get a copy of the hearing transcript for you own use, however, you must make your arrangements with the court reporter.

We value your comments. MSHA will accept written comments and other data from anyone, including those of you

who do not present an oral statement. You may submit written comments to Pam King, whom I've introduced, or to Carol Jones, whom I've introduced as Acting Director of the Office of Standards, Regulations and Variances, at the address that is listed in the notice for the hearing.

We will include them in the rulemaking record. If you feel you need to modify your comments or wish to submit additional comments following the hearing, the record will stay open until February 16, 1999. You are encouraged to submit to MSHA a copy of our comments on computer disk. I'd like to emphasize that, because that makes our job a lot easier.

Your comments are essential in helping MSHA develop the most appropriate rule that fosters safety and health in our nation's mines. We appreciate your views on this rulemaking and assure that your comments, whether written or oral, will be considered by MSHA in finalizing this rule.

In another rulemaking that came out on October 29, 1998, we published the proposed rule to address diesel particulate matter exposure of underground metal and non-metal mines. The comment period for that proposed rule will close on February 26, 1999. Hearings for the metal and non-metal proposal will be announced in the future Federal Register notice. You may obtain copies of that proposal by

downloading it from MSHA's website, which is www.msha.gov, or by calling the Office of Standards, Regulations and Variances at (703) 235-1910.

However, the scope of this hearing today is limited to the April 9, 1998 proposed rule addressing diesel particulate exposure of underground coal miners. This hearing is the first of four public hearings to be held on the proposed rule. We plan to hold the second hearing later this week in Beckley, West Virginia on Thursday, at the Mine Safety and Health Academy in Beckley, West Virginia. we will hold the third hearing on December 15, 1998 in Mt. Vernon, Illinois and the fourth and final hearing on December 17, 1998 in Birmingham, Alabama. Information regarding these hearings was published in the Federal Register on October 19 and can also be obtained from MSHA's website on the Internet. And, there are a few copies available here, if you want to pick one up here.

On April 9, 1998, MSHA published the proposed rule that would reduce the risk in underground coal miners of serious health hazards that are associated with exposure to high concentrations of diesel particulate matter. Diesel particular matter is a very small particle in diesel exhaust. Underground miners are exposed to far higher concentrations of this fine particulate than any other group of workers.

The best available evidence indicates that such high exposure puts these miners at excess risk of a variety of adverse health effects, including lung cancer. The comment period for the proposed rule was scheduled to close on August 7, 1998. However, due to requests from the mining community, the Agency extended the comment period for an additional 60 days, and this was until October 9, 1998.

This proposed rule would require the following: Proposed paragraph 72.500 would require the installation and maintenance of high efficiency particulate filters on the most polluting types of diesel equipment and underground coal mines. It would require that beginning 18 months after the date this rule was promulgated, any piece of permissible diesel-powered equipment -- and I stress permissible -- operated in an underground coal mine, must be equipped with a system capable of removing, on average, at least 95 percent of the mass of the diesel particulate matter emitted from the engine.

Additionally, beginning 30 months after the rule is promulgated, any non-permissible piece of heavy duty diesel-powered equipment operated in an underground coal mine must be equipped with a system capable of removing, on average, at least 95 percent of the mass of the DPM emitted from the engine.

Any exhaust after-treatment device installed to

reduce the emission of DPM would be required to be maintained in accordance with manufacturer specifications.

The proposal also sets forth the Agency requirements for determining whether a system is capable of removing, on average, at least 95 percent of diesel particulate matter by mass. It states that a filtration system must be tested by comparing the results of emission tests of an engine with and without the filtration systems in place.

Proposed paragraph 72.510 is a training requirement which lists the pertinent areas in which instruction must occur. The training is to be provided annually in all mines, using diesel-powered equipment, and it is to be provided without charge to the miners. It also includes provisions on records retention, access and transfer.

And, finally, proposed amendment to paragraph 75.371 would amend existing paragraph 75.371, which is the mine ventilation plan contents, which would add one new requirement to an underground mine ventilation control plan. The additional information is limited, but it is critical to the control of diesel particulate matter. The proposal would require the ventilation plan to contain a list of the diesel powered units used by the mine operator, together with information about each units emission control or

filtration system.

Details relative to the efficiency of the system and the method used to establish the efficiency of the system for removing diesel particulate matter are to be included. Any amendments to a mine's ventilation plan, of course, must also follow requirements of 30 CFR 75.370, which are the submission and approval requirements to the mine ventilation plan.

MSHA received comments from various sectors of the mining community and has preliminarily reviewed the comments it has received thus far. MSHA would particularly like additional input from the mining community regarding specific alternative approaches discussed in the economic feasibility section of the preamble. As you might recall, the options discussed include establishing a concentration limit for diesel particulate matter in this sector, the coal sector; requiring filters on some light-duty equipment; and looking at the filter and the engine as a package that has to meet a particular emission standard, instead of requiring that all engines be equipped with a high-efficiency filter.

The Agency is also interested in obtaining as many examples as possible of the specific situation in individual mines. This could include the composition of the diesel fleet, what controls cannot be utilized due to special conditions, and any studies of alternative controls you

might have used for the computer spreadsheet that we have put into the preamble of the proposed rule.

We also seek information about the availability and costs of various control technologies that are being developed, such as high-efficiency ceramic filters. Also, experience with the use of available controls and information that will help us evaluate alternative approaches for underground coal mines. We would also like to hear about any unusual situations that might warrant the application of special provisions.

The Agency welcomes comments on any topics on which we should provide initial guidance, as well as any alternative practices which MSHA should accept for compliance before various provisions of the rule go into effect.

Additionally, the National Environmental Policy Act of 1969 requires each federal agency to consider the environmental effects of proposed actions and to prepare an environmental impact statement, a major action significantly affecting the quality of the human environment. On July 14, 1998, MSHA published a notice in the Federal Register that announced its preliminary determination that the proposed rule would have no significant environmental impact. The comment period was scheduled to close on August 10, 1998. However, MSHA extended the comment period until October 9,

1998 and the record will remain open as stated in this public hearing notice until February 16, 1999, to allow for post-hearing comments and data submission.

MSHA views these rulemaking activities as extremely important and knows that your participation is also a reflection of the importance you associate with the rulemaking. To insure that an adequate record is made during this proceeding, when you present your oral statement or otherwise address the panel, I ask that you come to the front table here, clearly state your name, spell your name and state the name of the organization you represent.

The way we were going to handle this today, we've had several, three, lists of people that have asked for time to present. They will be given first come, first presentation privileges. They will be done in 30 minute intervals, and if there's more time required, and then we will repeat and most people will be able to come back and represent.

After that time, we have a list of people that have signed in at the door to make presentations and we'll take them in the order that the signees signed the sign-in sheet. It is my intent that during this hearing, anyone who wishes to speak will be given an opportunity. Anyone who has not previously asked for time to speak needs to tell us of your intention to do so by signing the request sheet, and

as all of you know, I'm sure by now, that that's in the back of the room.

Time will be allowed, allocated for you to speak after the scheduled speaker. We are scheduled to go until 5 p.m. today. Of course, we will call a halt if we run out of speakers.

I will attempt to recognize all speakers in the order in which they requested to speak. However, as the moderator, I reserve the right to modify the order of presentation in the interest of fairness. I doubt that it will be necessary, but I also may exercise discretion to irrelevant or unduly repetitious material. And, in order to clarify certain points, the panel may ask questions of the speakers.

I might also add for some of you that are not familiar with the facility here, is that there are restrooms directly at the bottom of the escalator out here and there are also vending machines also on that main floor. With that, I would like to call our first speaker this morning, which will be the National Mining Association.

MR. PEELISH: Mr. Chairman and members of the Committee, I am Michael Peelish. That's spelled P-E-E-L-I-S-H, Director of Safety for Cyprus Amax Minerals Company. With me is David Beerbower, spelled B-E-E-R-B-O-W-E-R, Vice President for Safety with Peabody Group. Joining us are

Bruce Watzman and Michael Duffy from the National Mining Association.

Today, we appear before you representing the members of the NMA who produce the vast majority of coal produced annually in the U.S. Further, NMA member-companies manufacture the equipment and systems which are the subject of this rulemaking. As such, the NMA has a keen level of interest in these proceedings as they will, in large part, determine what equipment and under what conditions, diesel-powered equipment will continue to be used in underground coal mines.

Let us be clear at the outset, we are convinced that diesel-powered equipment is not only safe for us in underground coal mines, but has significantly improved safety in our coal mines.

Our testimony today will focus primarily on two aspects of the Agency's proposed rule. First, we will comment on the proposed requirement that certain categories of equipment used in underground coal mines be equipped with an after-treatment filtration system, capable of removing 95 percent of the DPM emitted.

Second, we will comment on the Agency's economic analysis that accompanies the proposal. Prior to the end of the comment period, we will provide more extensive comments on the Agency's risk assessment and we will provide an

alternative, which will afford miners greater health protection within the current limits of technology and economics.

Diesel Particulate Matter -- Need to Control Exposures. MSHA and its predecessors have promulgated standards applicable to diesel as far back as 1944 to control gaseous emissions. MSHA began its recent activity addressing the use of diesel-powered equipment on October 6, 1987, when the Agency established an Advisory Committee on Standards and Regulations for Diesel-Powered Equipment in Underground Coal Mines. That was the Diesel Advisory Committee. The Diesel Advisory Committee issued its report to the Secretary of Labor in July, 1988. Based on the Diesel Advisory Committee's report, MSHA issued proposed rules for the Approval Requirements for Diesel-Powered Machines and Approval, Exposure Monitoring and Safety Requirements for the Use of Diesel-Powered Equipment in Underground Coal Mining. The rule was published in the Federal Register on October 4, 1989. These rules became final on October 25, 1996, with complete implementation required by November 25, 1999.

The 1996 final rule primarily addressed the diesel-powered machine approval, ambient monitoring for certain diesel emissions components, and safety use issues. To some extent, the 1996 final rule did address health

issues by focusing on how to improve diesel emissions through cleaner engines verified by engine emissions testing, better fuel quality, better maintenance specifications and training requirements and monitoring for emission gases.

While MSHA was still considering the machine approval and safety use issues, it issued an advance notice of proposed rulemaking on a Permissible Exposure Limit for DPM. The rule was published in the Federal Register on January 6, 1992. In the preamble to the 1992 advance notice, MSHA noted that the Diesel Advisory Committee made "several research proposals to the Secretary, because they recognized the difficulty in implementing the recommendations based on the body of scientific knowledge that existed at the time of the report. The committee recommended that the Secretary request the National Institute for Occupational Safety and Health (NIOSH) and the Bureau of Mines give the highest authority to research in the development of sampling methods and devices for DPM.

In addition, the committee concluded that in the absence of adequate information regarding DPM exposure levels at which health effects accrue, more research is needed."

From these recommendations, MSHA set in motion four initiatives. Two of these initiatives pertained to DPM

measuring devices and exposure levels. One pertained to risk assessments utilizing animal studies and correlating and modeling these studies to humans, and the last pertained to diesel emissions control technologies.

The first emission regarding exposure levels, MSHA has provided data noting ranges of average DPM exposures observed at various mines for underground and surface miners, compared to range of average exposures reported for other occupations and for ambient air. While much has been said about the high-end concentrations that have been found, it must be noted that the average exposures are .644 mg/m^3 in underground coal mines. Even these are actually upper bound estimates for DPM, because the sampling devices measure everything below .8 micrometers, including coal dust and rock dust.

Beyond this, however, we are uncertain about the data's credibility, since the data was gathered by emissions monitoring devices later discredited by MSHA in the preamble. Quite frankly, we are confused by MSHA's inconsistencies concerning emissions measuring devices and techniques.

Regarding DPM devices, by MSHA's own admission in the preamble, its research work has not produced an instrument that provides reliable and accurate measurement capabilities in underground coal mines. Relative to the

developing emissions control technology, MSHA has done some work in this area, but it remains unclear whether any of these technologies meet a 95 percent efficiency standard. By MSHA's own admission, the nature of the rule is "technology forcing." We will discuss this in greater detail later.

The only tangible results produced by MSHA for use by the mine operator to address diesel emissions are set forth in the MSHA publication "Practical Ways to Reduce Exposure to Diesel Exhaust in Mining - A Toolbox." Unfortunately for the mine operator, MSHA completely ignores its own "Toolbox" by proposing a rule that does not allow engine manufacturers or mine operators the benefit of any of its tools. Rather, the Agency has decided to mandate an across-the-board system efficiency rating. The MSHA toolbox would tend to support the concept that mine operators should be allowed to choose the combination of controls that best suits their operations, versus a restrictive and mandated efficiency rating standard.

Relative to the risk assessment, what has really changed since 1992? Simply put, nothing has changed MSHA has failed to initiate any scientifically based research on humans or follow up on previous research performed by NIOSH, the former Bureau of Mines, and MSHA in the late 1970's and early 80's in the western coal mines, using actual coal

miners.

Rather, MSHA has based its risk assessment on a collection of epidemiological studies whose reliability is of questionable value. Moreover, the reliance on animal bioassays and, particularly, those involving rats, has been called into question by researchers throughout the world. Simply put, we know today that rats cannot be relied upon to estimate human exposure and response mechanisms. Both the EPA and the California Air Resource Board rejected this as the basis for regulating diesel exposure. As noted previously, we will provide additional comments on these aspects in our written comments.

Perhaps the most useful scientific study is currently underway between NIOSH and the National Cancer Institute. Rather than wait for preliminary or final results of this study, MSHA has elected to issue a proposed rule that establishes an extremely stringent standard. We are advised that you will receive testimony regarding the NIOSH/NCI study. We support the efforts of the companies involved in that study and would again urge the Agency to await the results of that investigation before promulgating final rules.

While seven years may be too long in the Agency’s eyes, we must note with some irony the years we’ve been awaiting rules regarding the use of belt air to ventilate

working places and high-voltage electrical standards. In any case, however, we understand that interim reports from the study will be made available. It behooves the Agency to consider these as it proceeds with this important initiative.

The industry's approach throughout the prior advisory committee and rulemaking efforts has been to assure reasonable and justifiable approval, use standards, and health standards for diesel-powered equipment utilized in underground coal mines. Indeed, the safety and operational advantages afforded by the use of diesel-powered equipment have been unquestionably demonstrated over years of steadily increasing use of this equipment in underground coal mining.

Many of the concerns raised by MSHA, the coal miners and the coal mining industry during the proceedings of the Diesel Advisory Committee and the October 4, 1989 proposed rule have been addressed in the 1996 final rule. Indeed, the missing factor in the management of diesel emissions equation pertains to the health risk. However, before MSHA proceeds with this critical aspect of the solution, it should support its approach with sound scientific data. In the industry's opinion, MSHA has failed to do so.

NMA member companies believe that it simply makes common sense to manage a business on the premise that an

ounce of prevention is better than a pound of cure. MSHA has not met the legal standard to justify proposing such extreme measures to manage DPM emissions. In doing so, MSHA has tied one hand behind the operator's back by not allowing the operator the opportunity to use all available resources as those set forth in MSHA's Toolbox. The definition of an unreasonable rule is MSHA requiring mine operators to meet one of the most stringent diesel emission standards in the world, without the use of all available resources such as clean engines, high fuel quality, ventilation, and greater variety of reliable, commercially available after-treatment devices.

Section 72.500(a) The proposed rule as reflected in Section 75.200(a) is premised on the availability of reliable, commercially available after-treatment devices capable of removing 95 percent of the DPM emitted from the engine. NMA is confused as to how MSHA is defining "...a filtration device capable of removing an average of 95 percent or greater by mass of DPM." If MSHA is saying that the filtration devices must show 95 percent efficiency regardless of the type of particle test dust used or sampling device or sampling techniques, then several manufacturers' published reports have made claims that their filtration devices attain a 95 percent efficiency rating. If, however, MSHA is saying that the filtration device is,

instead, an entire system tested under ISO-8 Mode steady state test procedures while emitting DPM, then arguably, only one manufacturer currently meets that standard, and then only for one engine package. NMA is assuming the latter situation applies to these proposed rules and further is assuming that Dry Systems Technology, Dry Systems, is the only filtration device anticipated by the proposed standard.

DST Dry Systems has undergone several emissions tests required by the proposed rule and is currently installed on two permissible diesel units believed to meet the proposed standard. To NMA's knowledge, other than DST Dry Systems, no other equipment or after-treatment manufacturers claim they have passed the tests envisioned in the proposed rule 72.500(d). This being the case, our review of the economic analysis, which Dave will discuss shortly, is predicated on the belief that operators would be required to use the DST Dry System, assuming it can universally meet the proposed rule.

Before turning to the economic analysis, however, we think it is important to set the record straight regarding the availability, reliability, and technical feasibility of after-treatment devices to comply with the 95 percent emission reduction requirement. Quite simply, we have been unable to substantiate the Agency's contention that such devices are feasible and available.

Just the opposite has been found. While DST Dry Systems has proven successful under limited testing and in some applications, it has not been found to be universally applicable to all mining equipment. In this regard, we would ask that a study conducted by West Virginia University for the West Virginia Diesel Equipment Commission be made a part of the record.

The Agency's blind reliance on manufacturers' claims of efficiency ignores the testing methodologies employed and their inapplicability to the environment in which these devices will operate -- underground coal mines. To promulgate a regulation whose bases are manufacturers' claims of efficiency using latex particles or monodispersed liquid particulate matter as the testing medium is both ill advised and inaccurate. For example, a paper filter tested in the laboratory may have 95 percent efficiency based on the number of particles, but the efficiency may go down to 75 to 80 when tested on polydispersed diesel exhaust on a mass basis. The Agency's rush to judgment to complete this rulemaking has made a mockery of science-based rulemaking and calls into question the validity of the Agency's rulemaking process. Are we to tel our miners that the systems used will protect their health when the sources for that determination are tests that have no relationship to the mining environment?

The preamble to the proposed rule speaks extensively to the question of feasibility. Missing from the discussion because of timing is a reference to the decision of the Eleventh Circuit Court of Appeals in National Mining Association and Alabama Coal Association v. Secretary of Labor and issued on September 4, 1998. We believe this decision is directly on point and must be considered as the Agency drafts a final rule. That decision specifically addresses the issue of feasibility under the Mine Act vis a vis that same concept under the OSHA statute. "Feasibility under OSHA means technological and economic feasibility... We believe the Mine Act term 'feasibility' includes these concepts as well, but we do not otherwise address the applicability of OSHA."

Thus, when MSHA and the public address the concept of feasibility in this proceeding, they must be guided by case law arising under the OSHA Act as well as the Mine Act. That principle is echoed in the text of the Mine Act itself. For example, Section 106(a) of the Mine Act, briefly summarized, requires that in promulgating a mandatory health standard, the Secretary must first identify a hazard and quantify that hazard, i.e., determine whether unregulated working life exposure to the hazard is significant enough to cause a miner to "suffer material impairment of health or physical capacity." Both the identification and

quantification of the risk must be based upon "the best available evidence." While the health and safety of miners are of paramount consideration, the Secretary must also consider the feasibility of a proposed standard, as well as experienced gained under the Mine Act and other safety and health laws, most obviously, of course, the OSHA statute.

While issues relating to material impairment and best available evidence have yet to be extensively addressed by the Courts in terms of the Mine Act, these issues or their close analogues have been extensively addressed in the OSHA context. Many of the principles derived in those cases can and should be applied to issues arising in this proposed rule. Indeed, MSHA refers to a number of OSHA cases in the preamble as justification for some of the rulemaking decisions it has made. With respect to the issue of feasibility, however, the Eleventh Circuit's decision, cited above, requires that MSHA follow whatever judicial guidance that has arisen under the OSHA rulemaking activity.

It is well established that for each standard it wishes to promulgate, OSHA must find that (1) at present exposure levels, a significant risk of material impairment exists, (2) the standard is technologically feasible, and (3) the standard is economically feasible. Rather than take the time now, our written comments will outline the Courts' treatment of this key rulemaking issue.

Keeping those principles in mind, however, we will now focus on how MSHA has addressed them in the proposed rule.

NMA takes issue with several assertions by MSHA as to its regulatory responsibilities under 101(a)(6)(A) of the Mine Act. For instance, in its analysis of feasibility, MSHA states, "Courts do not expect hard and precise predictions from agencies regarding feasibility. Congress intended for the 'arbitrary and capricious standard' to be applied in judicial review of MSHA rulemaking. Under this standard, MSHA need only base its predictions on reasonable inferences drawn from the existing facts."

The holding of the Eleventh Circuit in the AFL-CIO v. OSHA air quality decision, which is referenced in the preamble, however, requires a harder look at the Secretary's actions than under the more deferential arbitrary and capricious standard of Section 551 of the Administrative Procedures Act. This is an important distinction that must be considered, particularly when that same Circuit has recently ruled that feasibility under the Mine Act is comparable to that concept under the OSHA Act. Accordingly, MSHA's conclusions with respect to both technological and economic feasibility must be subjected to a harder look. When subjected to such scrutiny, we believe the Agency's proposition that feasible technology capable of meeting the

proposed 95 percent emission reduction requirement fails to meet the tests outlined by the Court.

This is not to say that we cannot and should not do more -- we can and we should. But, let's not create a false sense of security. There are limitations on what can be accomplished, given the technology available today. Given what we know today, we cannot equip diesel-powered equipment using underground mines in the time frame provided with reliable after-treatment systems capable of removing 95 percent of the DPM. That being said, it is time we all focus on achieving realistic goals to further reduce miner exposure to DPM, while we continue efforts to develop new emission control technologies.

At this point, Dave Beerbower will provide you with preliminary comments on the Regulatory Economic Analysis.

MR. BEERBOWER: Thank you, Mike. As previously noted, I am Dave Beerbower, Vice President of Safety for the Peabody Group. Peabody is the largest coal producer in the nation, and we operate mines in nine states and annually produce approximately 160 million tons of coal for shipment to customers. Currently we operate diesel-powered equipment at four of our underground coal mines, however, we anticipate that this will increase as diesel-powered equipment is introduced in West Virginia.

As Mike mentioned, we have reviewed the Agency's preliminary Regulatory Economic Analysis and find it to be flawed. As stated earlier, NMA does not agree with MSHA's approach to managing diesel emission. However, we feel compelled to comment on the statements contained in the Regulatory Analysis.

NMA believes that if reliable after-treatment devices that meet the proposed 95 percent collection efficiency are available, the initial cost of the proposed rule will be at least six times greater than that assumed by MSHA. MSHA's assumption of initial costs to retrofit permissible units is $3,378,000. Assuming the use of the DST Dry Systems, the initial cost to the industry is more like $20,622,500. And, I will discuss this later at how we arrived at that cost estimate.

MSHA needs to explain how the discount rate is applied to monies that will be expended in the current year, although equipment may be amortized over several years. Further, MSHA needs to explain how long the industry will be required to spend approximately $10 million per year. MSHA has made assumptions about the useful life of equipment. To assure that these assumptions are reasonable, can MSHA provide a useful life schedule for the equipment considered in its assessment?

MSHA's economic analysis looks at the coal

industry as a whole, when, in fact, the proposed rule impacts only 173 underground coal mines. Thus, portions of MSHA's analysis, when it uses an industry-wide data, needs to be modified to accurately reflect only those underground coal mines utilizing diesel-powered equipment. For instance, if the proposed rule considers only 173 mines, then the financial impact on this segment of the industry are much greater than MSHA would make it appear. In the absence of this, the analysis unfairly characterizes the true economic impact of that segment using diesel-powered equipment.

On page 37 of the Preliminary Regulatory Economic Analysis, MSHA states that there are 567 permissible pieces of diesel-powered equipment, of which 10 percent already have after-treatment devices that meet the regulation. We do not know the basis for MSHA's assumption and would ask that this be provided.

Base on our assumption that DST Dry Systems is the only technology capable of meeting the proposal's after-treatment criteria, only two of the 567 machines have after-treatment devices that may meet the 95 percent efficiency requirement under Part 7.89. Also, the cost estimates for the after-treatment devices are inaccurate. Assuming DST Dry Systems has the technology capable of achieving 95 percent reduction, the following implementation costs would

be incurred for a Jeffrey 4110 Ramcar 94 horsepower permissible diesel engine package. The cost may vary significantly for larger engines and do not consider all structural modifications that may need to be made in various types of equipment. And, that permissible retrofit cost is $36,500 per unit.

It's different on OEM costs and we'll highlight some of that now. By all estimates, some additional costs above currently approved and used technology will be associated with new permissible equipment. The question is, how much? NMA would estimate that if DST Dry Systems are mandated on all future diesel units versus existing water scrubber technology, then the additional costs, including hardware costs and excluding design and applied engineering and installation costs, would range from $1,000 to $5,000, depending on the horsepower of the engine package. It is not accurate, realistic or genuine for MSHA to state that all a mine operator has to do is place a filter in the exhaust stream of an existing permissible diesel unit to be in compliance with the regulation.

Based upon these facts, MSHA's initial compliance cost calculations would be modified as follows. For large and small mines, there are 565 permissible pieces times $36,500, for those retrofits, $20,622,500.

The cost of initial compliance would be the same

for large mines as well as small mines, since the after-treatment technology would be the same applied to the selected engines, regardless of the mine size. Based upon operating experience, the ongoing operating costs for exhaust filters can range up to $10 for operating hour, plus the cost of labor to change the filters. This is considerably higher than the costs assumed by MSHA in its analysis.

We must also make note of our disagreement with MSHA's assumptions of small versus large mine operating hours. In truth, to remain competitive, both large and small mines must operate comparable hours. As such, the costs attributable to OEM must be revised to reflect comparable operating hours.

As a note, NMA does not believe MSHA should annualize the initial costs, since those dollars are spent immediately to comply with the proposed rule. The impact to cash flows is immediate and this should be the standard used by MSHA.

Under Part 75.500(b), MSHA's assumptions concerning the upgrading of and ongoing maintenance for the non-permissible, heavy-duty diesel units are reasonable.

Now, we'll turn to the issue of certification costs for engine or equipment manufacturers. Relative to the cost of certification, NMA finds it difficult to believe

that certification costs for the entire manufacturing industry only amount to $14,000 annually. To certify the first DST Dry System diesel-powered package costs in excess of $50,000, with subsequent certifications costing slightly less.

Further, the rule effectively requires diesel emissions testing conducted under Part 7.89, to provide the efficiency rating of 95 percent, but MSHA does not appear to have factored in this cost. The emissions test alone for diesel-powered package systems can cost around $25,000. To certify an engine according to Part 7 without an after-treatment device cost in excess of $28,000 as recent -- excuse me, let me try that again. To certify an engine according to Part 7 without an after-treatment device, costs in excess of $28,000 as recent experience has proved to mine operators. Also, MSHA should not annualize the certification costs, since these costs are expensed in the year incurred, that is, at the time the certification work is performed. Thus, the initial cost will be significantly higher to the manufacturers. In fact, the proposed rule is a technology forcing regulation, will incite manufacturers to conduct certification testing in order to market new technology to the industry. Thus, MSHA can anticipate a flurry of activity by manufacturers.

MSHA’s assumptions do not consider the time and

costs incurred by engine and after-treatment manufacturers and mine operators to develop technology to meet the DPM standard. Specific manufacturer and operator costs are not provided in these comments. However, speaking from general experience among the NMA members, large financial commitments, several hundred of thousands of dollars annually by after-treatment manufacturers alone, are made in the research and development area. Quite frankly, this is an area where MSHA has not done enough with its knowledgeable personnel and research facility.

The industry would welcome the opportunity to develop with MSHA a research and development program that encourages sound scientific research of feasible technologies in the various aspects of diesel emissions management.

Now, we'll turn to the issue of time frame for compliance.

MR. TOMB: Is this all you have to do, is the next few pages?

MR. BEERBOWER: Yes.

MR. TOMB: Okay.

MR. BEERBOWER: Another area where we find the analysis to be incorrect is in the area of the time frames required for compliance. We believe MSHA is too optimistic and will cause confusion among operators, miners and

equipment manufacturers. For example, using a popular diesel-powered unit in the industry, the Jeffrey Ramcar, as a case study, it's estimated it would take, at best, 42 months to convert 85 percent of the existing fleet. The existing fleet of Jeffrey Ramcars is about 300, or more than 50 percent of the existing permissible diesel units. This time frame considers time required for certification of the after-treatment technology under Part 7.89, since that has not been accomplished for these units.

MSHA assumes that once a diesel power package is completely certified, multiple units can be converted simultaneously, which is an unreasonable expectation. To address these concerns, we would propose at least 48 months for the permissible diesel units and 60 months for non-permissible diesel units. This would be more reasonable and allow adequate time for manufacturers, mine operators and rebuilt facilities to properly get their arms around an orderly, industry-wide conversion program. Such a realistic time frame is fully supported by the legislative history of the Mine Act.

While Congress, acknowledging that MSHA may issue so-called technology forcing standards, it also recognized the reality of such standards and they must be given adequate time for implementation.

"Where substantial outlays are needed in order to

allow industry to reach the permissible limits necessary to protect miners, other regulatory strategies are available to accommodate economic feasibility and health considerations... includ[ing] delaying implementation of certain provisions or requirements of standards in order to allow sufficient time for engineering controls..."

We will skip over a little bit and speed it up here. On the quantification for benefits, you will be able to read our comments, but we are looking at the NIOSH/NCI study and want to particularly talk about, for MSHA, particularly, within its own files, the research information on the impact of diesel emissions based upon the work done in conjunction with NIOSH and the Bureau of Mines and MSHA, themselves, and several western coal operators.

This medical surveillance research was conducted between ’79 and ’81 in Colorado and Utah, on coal miners operating diesel equipment in underground mines. The project plan involved gathering exposure levels, x-rays, lung function tests and a questionnaire. And, we would ask where is that information? It doesn’t appear to be part of the rulemaking, and we would ask that it be brought forward.

We are also attaching an appendix that talks about compliance with NEPA, for your consumption.

In conclusion, Mr. Chairman, we reiterate that it is essential that the Agency permit operators to employ an

integrated approach, to provide the flexibility required to reach DPM in underground coal mines. The utility of such an approach has been recognized in several peer-reviewed papers and journal articles, authored by MSHA technical staff. An integrated approach would allow operators to use all the tools in the toolbox in order to attain the highest degree of safety and health that is feasible. The Agency's recent semi-annual regulatory agenda highlighted the need to "explore new approaches to achieve our regulatory goals at lower costs and with greater flexibility for the regulated community." We support this objective and believe the adoption of an integrated approach will meet this objective. Thank you and we'll be happy to answer any of your questions.

MR. TOMB: I have one question. Does this complete NMA's presentation or you're going to still have more after?

MR. BEERBOWER: Yes.

MR. TOMB: This is it, completed? Okay.

Okay, Sandra?

MS. WESDOCK: Mr. Peelish? Hi. I have one question. I don't have a list of what we have in our records -- we're making records right now -- with me, and I was wondering, has NMA completed the, you know, the comments, a copy of this West Virginia University Commission

Study that you identified --

MR. PEELISH: I think we just submitted to Mr. Strom the copy of that.

MS. WESDOCK: Okay, okay, thank you.

MR. TOMB: Mike?

MR. SASEEN: Mike, you mentioned -- are you going to make the West Virginia data available? I think you provided some? No, you didn't, that's right. But, you hope to make WB's data available?

MR. PEELISH: Yes.

MR. SASEEN: Is there any other data you're aware of that can be presented, that's been tested on the 95 percent, on the filter system?

MR. PEELISH: On the DST System?

MR. SASEEN: Yes.

MR. PEELISH: The original data that supported the implementation of diesel equipment in Pennsylvania, from March of 1995, I think was submitted when you had your workshop.

MR. SASEEN: Okay.

MR. PEELISH: I need to resubmit that for the record, but it has been previously submitted. In fact, I think at the workshop.

MR. SASEEN: Okay, then that's different from this that you stated in here?

MR. PEELISH: That's different than the final report of the West Virginia Diesel Commission, that's correct. Those are two separate reports.

MR. SASEEN: Okay, is there any other data that you're aware of that can be submitted?

MR. PEELISH: At this time, through NMA, no. We have not done our own independent testing to support the comments.

MR. SASEEN: Okay, thank you.

MR. TOMB: Ron?

MR. FORD: Yes, my name is Ron Ford and Mr. Peelish, I have two questions for you and then the rest for Mr. Beerbower.

On page four of your comments, you made the statement that while DST is proving successful in a limited testing and in some applications, it has not been found to be universally applicable to all mining equipment. Can you just talk a little bit about what your experience is to what equipment it is applicable to now, that you know of?

MR. PEELISH: My involvement with DST is quite personal. Cyprus Amax Minerals, Cyprus Amax Coal Company is one of the general partners that developed the technology. The test that I referred to in addressing Mr. Saseen was a test that was done on an NWM contingent package. The report that was filed by the West Virginia University shows that

that exceeded 95 percent.

The applicability of that standard, of the 95 percent standard, then became then apparent in Pennsylvania, in their statutory language.

We have only tested at West Virginia the NWM package. However, in Pennsylvania, they have accepted -- the technical advisory committee has accepted those tests for purposes of accessibility to other engines. There have been some tests done on other engines by DST, however, we have not made that testing data publicly available yet.

Other than that and the West Virginia report by the Commission, by the West Virginia Diesel Commission Study, which showed a DST drive system was used on a 3306 Caterpillar engine, 150 horsepower, those are the only systems that NMA will provide evidence for the testimony on.

DST partnership is another issue and I wouldn't want to get into that right now. I will wait for those comments to be submitted.

MR. FORD: Okay. On page six, again at the bottom, a statement that was made, "Given what we know today, we cannot retrofit diesel-powered equipment used in the underground coal mines with reliable after-treatment systems capable of removing 95 percent of the DPM's." Could you comment on whether or not there is a level that you think you could meet in efficiency level?

MR. PEELISH: I think you can meet 95 percent. It's from one to one report. The question becomes, does the universal, is the applicability of that technology universally on all the equipment, without having to run the test?

Again, speaking as kind of the partner in DST, we believe that it's capable. There, and it may -- there are some members who believe it is not capable, and on all packages universally, and we have the test results to show that. That's where I think it's incumbent upon OSHA, and we've noted it in here, the people that you had, the knowledgeable people that you have and the facilities that you have to do more of that testing and to verify these systems.

MR. FORD: Thank you.

Mr. Beerbower, can we start on page seven? In the mode of trying to help us get a better economic analysis, I'd ask you to please help me with these questions.

At the top, you say currently that we offer a diesel-powered equipment underground at four of our mines. Do you have any sort of control technologies on any of those equipment currently, or have you ever had it in the past, and what's your experience with it?

MR. BEERBOWER: We currently do not have any of the Dry System Technology installed in any of our equipment.

We do have catalytic convertors on some and wet scrubbers on others.

MR. FORD: Have you done any testing or anything of what DPM is removed?

MR. BEERBOWER: We have not. We have not.

MR. FORD: On that same page, under industry profile, I guess I'm trying to get a better understanding. Are you saying that the number that MSHA went forward with in their economic analysis of 173 coal mines that utilized diesel equipment is incorrect, and there are more mines, or are you saying that maybe that may be a correct mine number now, but in the future, we haven't assessed what the diesels that could go into mines that are not using?

MR. BEERBOWER: We're saying that you have spread the cost of the conversion across the whole industry, when, in fact, it only affects 173 mines. So, that it really is higher for the mines that are utilizing diesel equipment currently.

MR. FORD: On page eight, you talk about the costs for permissible equipment, the retrofit cost of $36,500 and you call this implementation costs. Is the $36,500, is that purchase and installation costs? I'm trying to get an idea of what the definition of implementation costs?

MR. BEERBOWER: That's total costs, installed cost.

MR. FORD: So, that's system purchase, the system installed?

MR. BEERBOWER: Yes.

MR. FORD: So, does that encompass, that doesn't encompass what you talk about later as the cost to figure out how to redesign it onto the system?

MR. BEERBOWER: There are many pieces of equipment, for instance, large locomotives and track locomotives may have to have major frame alterations to get the DST System installed. We have not -- and really cannot -- figure out a cost, although we did hear yesterday from one of our members that the cost, for instance, of a Petito Mule, to be retrofitted with DST costs upwards, between $50,000 and $60,000 for that, because it did require mainframe modifications.

MR. FORD: Okay, now, that $50,000 to $60,000, you're talking then, not only purchase and installation, but also, the time it takes in the office to figure out how to redesign this?

MR. PEELISH: I don't know -- I think that was more a hardware cost. The cost of putting it in the machine. The design costs and the flat engineering cost, I don't see anywhere --

MR. FORD: That's what I'm trying to get at. So, the $50,000 you just quoted and the $36,500 is just purchase

and installation?

MR. BEERBOWER: Yes, and modification of the original piece of equipment, so that it would accept that, the DST technology.

MR. FORD: Okay. Do you have any idea of what it might cost to sit down and redesign this?

MR. BEERBOWER: No, we don't, but, I mean, that cost needs to be considered. I would guess, particularly with a major reconfiguration of a frame of a piece of equipment, you're talking upwards of $20,000, I would think.

MR. FORD: Okay, so, do you have an idea how MSHA might go about trying to find out how to determine such costs? Could you supply us with data from maybe some of your mine companies that would stipulate what their cost is for doing this?

MR. PEELISH: If I might answer that, the only system that has been retrofitted for a permissible unit is the 4110. The Ramcar. That's the reason you see the $36,500. That's a fairly certain cost. But, to do a locomotive or Petito Mule or a Wager Scoop, nobody's done it yet. But, I think the costs, from our experience, is going to be in excess of the $36,500. Because, number one, they're large units, the engines are larger. This is a 94 horse power unit. Those are going to be significantly larger, so the costs are going to be greater. I think

$36,500 is your bottom number.

MR. BEERBOWER: I think one thing we want to point out is that if you're talking about larger engines than this, the retrofit cost is going to be higher than $36,500 --

MR. FORD: Right, right.

MR. BEERBOWER: -- even if there are not structural changes.

MR. FORD: It seems to be left on here for something less than 150 horsepower, the purchase and installation, you're saying would be around $36,500. For something greater than 150 horsepower, if you just purchase installation, would be $50,000 to $60,000?

MR. PEELISH: For greater than 94 horsepower, not 150. That $36,500 applies to a 94.

MR. FORD: And, something greater than 94 would be $50,000 to $60,000?

MR. PEELISH: It would be more. The question is how much, because nobody has actually done the structural work on a retrofit yet.

MR. FORD: On the figure that you talked about for the $50,000, $60,000 machine, what horsepower is that?

MR. BEERBOWER: One hundred fifty we computed.

MR. FORD: Okay, so as we go down, we see, you talk about additional costs. But, in talking about

additional costs, I'm a little bit confused. You say that includes hardware costs and that includes design and applied engineering and installation costs. What --

MR. PEELISH: This is on now, the OEM side, that when an OEM -- right now, the current technology that's used are water scrubbers. So, above the cost of a water scrubber, there's going to be some additional cost to put DST in an existing, or in a new unit, that currently would use water scrub technology.

So, we're saying that above what you currently pay -- if you go out right now and pay for a water scrub after-treatment device, you're going to pay that. So, DST now is in their on early invasive versus the water scrubber, and you're going to pay X costs, an additional $1,000 to $5,000 for a 94 horsepower equipment type of deal.

MR. FORD: That $1,000 to $5,000 additional, so it's not that much different --

MR. BEERBOWER: When you compare it to water scrubbers, it's some, and again, that's where that --

MR. FORD: It's a little bit different, but from our workshops, I remember back, that was one of my questions. They said it was very little different cost if you're doing it on OEM equipment.

MR. BEERBOWER: And, again, that's for 94 horse, so maybe it will be different as you go up.

MR. FORD: Well, is the difference significant?

MR. PEELISH: It can be, because the cost of the -- primary cost is associated with the heat exchange, and when you have to pay straight -- it can be costly.

MR. TOMB: Go ahead.

MR. FORD: Let's talk about the operating experience would range up to $10 per hour. Can we have, if you have some documents which show how you got that $10 per hour?

MR. BEERBOWER: We don't have any with us, but we can get them to you.

MR. FORD: Oh, yes, okay, thank you. Also, on page nine, you talk about cost to manufacturers for certifying the system. Do you have any idea of when a system gets certified and then eventually they're sold right over to the -- there are a number of systems that are sold, or even engines that are sold, what that additional add-on cost would be? It certainly wouldn't be this high, because all these costs are spread over a large number of engines, more engines than one.

MR. BEERBOWER: Well, you know, one of the points that we're making here is that that's an upfront cost and we recognize that you amortize that over the whole, over the course of the engine life. And, in fact, what happens with whoever it is that manufactures the engine and getting it

certified, it is day one. So, we think that you need to take another look at how you amortized those costs.

MR. FORD: Right. This is a cost that's an upfront cost to the manufacturers and eventually, it will be stretched through to the line operators over a number of engines, which would not be a greater cost than we have here, correct?

MR. BEERBOWER: That's correct. The additional units would not cost that much.

MR. FORD: The last question I have is, we do get into this research and development area in the last paragraph, which we touched on earlier in the questions.

MR. BEERBOWER: I'm sorry, where?

MR. FORD: The last paragraph on page nine.

MR. BEERBOWER: I'm sorry, our page numbers are different. You're talking about inserted stationery?

MR. FORD: Yes.

MR. PEELISH: Mr. Ford, let me just add one point. On the cost that the certification, we're assuming it's paid by the manufacturer of the engine or the manufacturer of the technology. We're going through an issue right now with respect to the industry to comply with the November 25, 1999 deadline, where manufacturers of engines are saying, we're not going to do it. We're not going to certify engines, because the marketplace isn't there for it. Yet, the

operators still have existing equipment that has those engines in it and we're having to go back and pay ourselves to have these engines certified.

Now, we can't submit the certification because we don't own the engine. Therefore, we're incurring approximately $28,000 per engine package right now to get it certified, where, in 1996, in MSHA's economic impact assessment, they never assumed that.

MR. BEERBOWER: And, quite frankly, we didn't either.

MR. PEELISH: We got, you know, we've all been kind of stunned by this. Now, we're working towards that. There's a huge cost in this that I don't think MSHA estimated. We'll try to give you some numbers relative to what it would take to certify these costs. Yes, these things get amortized, but frankly, I don't think you ever get your money back.

MR. FORD: So, if I can reiterate what you're saying, you're saying that sometimes engine manufacturers won't do that certification part, it's not worth it for them. So, the actual mine operator himself has to go into MSHA and pay for all these upfront costs?

MR. PEELISH: Yeah, we pay for the engine manufacturer to go to find a third-party consultant to certify an engine and we pick up the tab, the cost of his

operators, but yet, the engine manufacturer will get the certification.

MR. FORD: So, it's not one particular mine that's paying these dollars, it's, you get a certification for a particular model and then the NMA, as an association, pays --

MR. PEELISH: Well, quite frankly, it's been individual companies who are undertaking this to do it themselves. And, it's not anything against the MSHA certification process. That's not the issue. The issue is that there were assumptions made that aren't now accurate and we don't want to go down that same path again in these rules, okay, because I think there's a lot more costs associated.

Then, there's again the whole issue that some manufacturers are just flatly denying any certification of any engines. And, we're going to lose some mining engines based on this rule.

MR. FORD: That's all I have.

MR. SASEEN: Mike, is DST going to be prepared to submit any additional data from their customers? I know you're representing NMA here.

MR. PEELISH: I guess we'll have to see what the final -- is. I haven't drafted them and don't know what they're going to say yet.

MR. SASEEN: Okay, thank you.

MR. PEELISH: Another thing that I'd ask MSHA is that on the issues of the exposure studies that were done in Utah and Colorado in the late 70's and early 80's, we would like to get that data if there's still data that exists. We're scouring our mines where these tests were done and a lot of it's old stuff and we can't find it.

MR. BEERBOWER: There were quite extensive x-ray studies and air --

MR. TOMB: I don't think there were particulate measurements made, though, were there?

MR. BEERBOWER: I'm not sure. But, there were lung capacity studies done and those type of things.

MR. TOMB: Okay, we have a couple more questions. Sorry.

MR. HANEY: On the filter efficiencies, are you saying that other commercial systems do not meet 95 percent, or that they haven't been tested?

MR. PEELISH: We're saying those are 7.89 and where the ISO-8 study state test, that's the only one that's passed that test. And, again, there's some argument as to whether it has or not. It isn't a DST Dry Systems.

The other filtration devices that have been claimed to have passed that have not been done pursuant to that test, so right there, to certify those other filters,

they've got to go through a whole listing of testing, just to certify that they do meet the 7.89.

MR. TOMB: Are we talking paper filters or other?

MR. PEELISH: Or any filter, any filtration device.

MR. HANEY: And, what is different with the DST System that would make it better or worse than other commercial systems out there?

MR. PEELISH: That's a hard -- I guess I don't know that I want to get into why we're better or worse or anything like that. Now I think it's just a matter of the efficiency of paper filters and being able to reduce your temperature to where a paper filter can act in the capacity that they would act, which is a very high efficiency, no infiltration. That's probably the primary difference.

MR. BEERBOWER: The West Virginia study has comparisons with some of the other filtration units out there, so I would encourage you to take a look at that.

MR. TOMB: Okay, Jon, any other questions?

MR. KOGUT: Mr. Peelish, at the bottom of my page six, you stated that given what we know today, we cannot retrofit diesel-powered equipment used in the underground coal mines with reliable treatment systems capable of removing 95 percent of the DPM. That being said, at a time when we all focus on achieving realistic goals to further

reduce miner exposure, does that constitute a suggestion that MSHA require something less than 95 percent of efficiency, or are you prepared to make more specific suggestions about what we should do as an alternative?

MR. PEELISH: I think what we are prepared to do is, we are going to submit addition comments on the alternative and I think it would be best for us to explain all of that in our original comments versus right now there's no need to speculate as to what that might be.

MR. TOMB: I guess that leads me to -- I have two questions I wanted to ask. One, on your retrofit costs you talked about, how often do you do a rebuild on a machine and when they do that, if they retrofit it with a, something like a DST System, what kind of additional costs are we talking about there? Is it the same as OEM? That was sort of brought out in our workshops, also, to do this was not tremendously expensive, if you're going to rebuild, for instance.

MR. PEELISH: Well, that would be the $36,500, Tom, because what you have to do -- that's what we did with these. They were scheduled to rebuild. We didn't put them out just to put DST on them. They were scheduled rebuilds. We went in, and that was the package, the dealer package, cost $36,500, with the entire retrofit.

MR. TOMB: Okay, but then, that $36,500, then,

though, is the difference between if you went back and did a whole -- there's a difference cost in there, not just $36,500 to be tacked onto it?

MR. PEELISH: Well, no, the $36,500 would be the cost. That would be the cost just to put that diesel down, that power package in. Now, if I've got to do other things that were not attributable to this retrofit for the emissions, those aren't added in the $36,500. Now, if I had to redo brakes or redo --

MR. TOMB: Right, okay.

MR. PEELISH: That's all different. That's not included in the $36,500.

MR. TOMB: Well, yeah, how often would you be doing rebuilds on equipment?

MR. PEELISH: On the engine, or on the equipment itself?

MR. TOMB: On the engine?

MR. PEELISH: Just off the top of my head, Tom, I'm going to say every 4,000 hours or so.

MR. TOMB: Okay. Okay, my other question is, it gets back a little bit to what Jon was alluding to there. In your conclusions, maybe you answered this, but I just want to clarify it. You indicate that the Agency should permit operators to employ an integrated approach to reducing diesel particulates and I guess the question is,

are you going to submit something as a preferable, what you think is a way to go to do that? You're going to come back in that?

MR. PEELISH: Yes.

MR. TOMB: You're not going to discuss that here, or are you going to discuss it in another meeting?

MR. BEERBOWER: We're not prepared to discuss it here. We're still formulating that plan.

MR. TOMB: Okay.

MR. BEERBOWER: We're just not ready to bring it forward.

MR. TOMB: Okay, but you are going to come forward with that?

MR. BEERBOWER: We will have it before the end of the comment period.

MR. TOMB: I think that would be very helpful. And, I think Ron Ford has one more question.

MR. FORD: Just one additional question. Mr. Beerbower, on the $36,500, not today, but after the hearing, can you supply us with like a written document showing the detailed numbers of how you get to $36,500?

MR. BEERBOWER: Not having DST, I'm going to defer to Mike on that, since he's the expert on it.

MR. PEELISH: Let me discuss that with the DST. Part of that is -- I mean, that is a sum number. How we

break that down is somewhat proprietary, but that is a total number.

MR. FORD: I only ask that because it would just help us to try and understand, get a better understanding of where these numbers come from --

MR. PEELISH: Sure.

MR. FORD: -- and help us to get more correct figures into our final package. Thank you.

MR. TOMB: I want to thank you for your comments. Oh, I'm sorry.

MS. WESDOCK: Sorry, just following what Ron said, on the last page of your testimony, page nine, you talk about the equipment manufacturers' certification costs. Without getting into any detail, you stated that, "Specific manufacturer and operator costs are not provided in these comments. However, speaking from general experience among the NMA members, large financial commitments are made in the research and development area." Would you be willing, in your post-hearing comments, you know, to submit some figures or something to give us an idea?

MR. BEERBOWER: That's a pretty fluid number. What it does, you know, that number keeps growing and I know Mike has experienced this in their development work and so have many of the other manufacturers, that that is an evolving cost. But, it is a very high number. Whether

they're going to be willing to share those actual numbers with you --

MS. WESDOCK: I understand.

MR. BEERBOWER: -- we'll ask, we'll see.

MR. TOMB: Any other questions? Thank you for your input.

Okay, next we'll have the United Mine Workers of America and I think the presentation will be made by Jeff Duncan? No? Okay, I'm sorry. Oh, the list? Okay.

We'll first hear from, and if I pronounce these names incorrectly, please correct me, James Ceal. Mr. Ceal is from UMWA, Local Union 2176.

MR. CEAL: Good morning. My name is James Ceal, C-E-A-L, and I'm a miner rep, United Mine Workers, Local 2176. I work at Trail Mountain Mine at Orangeville, Utah.

I just want to bring some information to you this morning. I'll be as brief as possible and give someone else a chance. I worked in the mines, although I've now mined for 18 years. I've been at the same work all this time. I've seen the increase in the use of diesel equipment in our mines and over these past 18 years, and I won't say that they definitely are not production oriented. They're definitely necessary to produce the kind of coal that we need to produce, that the nation needs from us.

What I would like to point out to you is that

you're using the diesel equipment in these closed loops of ventilation. I would like to identify some physical distresses that I've experienced myself. I've had other miners experience the same kind of distresses, so I've condensed this all down for you. Some of the stresses you actually can feel -- you don't need a gauge to measure this -- your burning eyes, nose, throat, your chest irritation. The more you're exposed to, the higher this goes. This includes headaches and nausea and some lasting congestion, depending on how long you've been exposed per shift or per week.

The men I represent have experienced more cold-like symptoms, especially over the past, I would say, eight to ten years, when diesel has really peaked and we no longer really use much of anything else. They've, we've all been exposed to atmospheres that you can actually see and taste, black, reddish-brown atmosphere. Now, earlier, someone mentioned laboratory rats. We feel like laboratory rats that, in the future, when this is all said and done, it will prove out what we're saying now, but it may be too late for us unless something is done immediately. And, we have an opportunity now.

When you're actually working in a mine around this equipment, it does help you a lot, but everything that comes out of the exhaust is going past the people working, because

the ventilation system is circulating in one direction at all times. So, no matter what you do, everything that comes out of that exhaust and people that are there by the airstream get exposed to everything.

Ventilation alone is not sufficient to alleviate this, because those particulate matters will hang together, much like a cloud, rather than get loose and fan out and just move along. And, in all of this, I've heard the NIOSH study that everyone is probably familiar with, with all the cancer-causing agents that they've identified in diesel exhaust alone, it's pretty scary.

I'd like to address the costs. Yes, there will be some initial costs, monetary costs involved in replicating the equipment that's used in the industry, not only in the company I work for, but all other companies. But, that cost will eventually be absorbed, and I'm sure that with just the ability to compete in this country, the manufacturers will be supporters of the systems, once they begin to see that that's what it's going to be like, that's how we're going to use it. I'm sure that their competitive nature will bring these costs closer to what we -- it will bring them down to where we can live with them.

But, the cost that I would like to address was the cost, the human cost. What are medical costs in the future going to cost to treat the guys that have come down with the

diseases, the heart disease, the cancers, the lung diseases, other organ diseases that will surely show up in the future? What's the medical cost of that going to be?

I'd like to touch base on the asbestos work. That was a great project when this country needed it, and everyone knows what happened to those people, the people that were actually affected. It's too late for them. They died young.

The same thing is going to happen to miners of our time. Our lives are going to be shortened, our time with our families are going to be shortened, unless something is done about this. So, I'd like you all to think a little bit on the human cost if something's not done real soon. And, with that, I'll leave it to my colleagues so we can give them a chance to speak. I thank you for your time.

MR. TOMB: Thank you, Mr. Ceal. We have one question, please?

MR. HANEY: At Trail Mountain, are they using diesel --

MR. CEAL: No, we don't use diesel -- we do use large scoops, diesel mantraps.

MR. SASEEN: Do you know what size engines that you use in those?

MR. CEAL: Not off the top of my head.

MR. SASEEN: They're mostly scoops, you said?

MR. CEAL: Mm-hmm, scoops and pick ups of a sort. I can submit that information to you later, if you would like me to?

MR. SASEEN: Yes, that would be good for the committee to have an understanding of what equipment. Thank you.

MR. TOMB: Thank you very much for your comments. Next, Mr. Allen, from Local 1984.

MR. ALLEN: Hello. As you all know, my name is Brad Allen, spelled B-R-A-D, A-L-L-E-N. I'm with District 22, Local 1984, another miner. I'm currently Safety Committee Chairman, Miner's Rep, at the Deserelda Mine. I've been mining for ten years and at the Deserelda Mine, we run diesel scoops, generators, air compressors and other various outlay equipment. Primarily, we're man-hauled, material-hauled, clean faces and especially low -- we don't use exposed diesel.

Based on several studies conducted by the U.S. EPA, California EPA, NIOSH and several independent entities, it is known to the mining community and MSHA that DPM is known to contain cancer-causing carcinogens. Therefore, MSHA has a responsibility to create a rule that will adequately protect the industry's most valuable asset, the miner. The proposed rule doesn't contain provision for light-duty outlay equipment, which is the source of

approximately two-thirds of the diesel particulate produced in mining. We need protection from all these pieces of equipment, which produce carcinogenic smoke.

The Pennsylvania rule would be an excellent model for MSHA to follow. To provide an average concentration of 0.12 milligrams per cubic liter of air of DPM's, a DPM filter, which are readily available from a variety of suppliers, capable of 95 percent or more reduction of DPM, as well as a number of other specific detections, such as on-board diagnostic equipment, the use of low-volatile fuel and scheduled maintenance programs that can remove the diesel equipment from service if it is out of compliance.

In addition to ventilation parameters. now, since we're on the topic of ventilation, I want to say that this is a good supplementary control of DPM, but cannot be relied upon for total control of the carcinogenic compounds. Operators may or may not provide adequate ventilation over diesels. Our miners have received a citation for inadequate ventilation over a scoop cleaning the feeder. I have also seen, during our last one, four diesel scoops running hard in a low-velocity entry and the smoke from that was so thick I could barely see 30 feet in front of me, and it was causing a burning sensation to my eyes, nose and throat and head.

We are confined to these entries and are forced to

breathe this kind of "air." That's why MSHA needs a law to control the smoke at the source, on the equipment. Implementing a quality DPM emission control program would be much more cost effective for operators relying on diesels, versus converting to a non-diesel status or the probable medical expenses of treating employees for lung cancer or other respiratory illnesses.

Studies show that between two and 870 per 1,000 miners are at risk of dying from lung cancer and/or they will have some problems.

MR. ALLEN: At current levels of exposure. In a ruling on benzine, one death in one thousand was identified by the U.S. Supreme Court as being a significant level of risk. Based on this alone, we know this is an unacceptable level of human sacrifice. I hope that the diesel particulate will not be the "black lung" of this generation of miners.

Last of all, as technology advances MSHA needs to look at advancing the diesel rules to insure the protection of the industry's most valuable asset, the miners. I also have copies of the Pennsylvania rules and relevant study to present to you for the record. Thank you.

MR. TOMB: Thank you, Mr. Allen. Any questions? Go ahead.

MR. HANEY: Are any of the scoops being used for

permissible scoops?

MR. ALLEN: Yes.

MR. HANEY: And do they have any after treatment on them?

MR. ALLEN: Water scrapes.

MR. TOMB: If you would leave the things that you were going to turn in with Ms. King.

Okay. Our next presenter will be Mr. Curtis from Local 1769.

MR. CURTIS: My name is Tain Curtis. T-A-I-N C-U-R-T-I-S. I'm the safety committee chairman of UNWA Local 1769 up at the Deercreek Mine. I have 18 years of experience in the mining industry. Our mine's operated by Energy West Mining and employees 206 miners who are members of our local.

The information that I have available to me does show that there's a potential risk with particles of diesel exhaust. So, basically, we need to address it now before it's too late.

I encourage the industry to seriously look into the matter and set safety levels to protect miners to adequately set up laws to better guarantee are health and safety so we can live long productive lives.

Our biggest exposure to diesel particularly is during long haul moves. Diesel equipment is used

extensively. Everyone working in these areas know of the discomfort diesel smoke causes, throat irritation, chest and lung discomforts, headache and other ailments. We feel if these, when exposed to these conditions, we don't know the exposure or the problems that we are exposed to when we're not exposed to these conditions but still in the coal mining environment.

The dinosaurs became extinct because the environment changed drastically. I understand the financial burdens these two standards will place on the operators. I don't want us to become extinct because of the financial burdens and the changes made. But at the same time, our health environment with the diesel, particularly that's so bad to our health, there needs to be ways to make these improvements to benefit both parties in the long run.

As Chairman of the Safety Committee at Deercreek, I encourage the use of whatever measures need to be utilized to make our workplace a healthier place to be. We need to look at all the options that technology offers us today. Exhaust filter technologies, additives to fuels, better diesel engines and anything else that is available and best use them to our needs now in the present, but remain open minded at whatever avenues the new technology lie ahead of us and be able to implement that new technology in the future.

These hearings today will effect the way my health will be when I retire. I'm a father of four and have a wife that I hope to retire with and see my children raised.

I solicit our attention into the matter of diesel particular matter to better protect my health and safety in the close environment of an underground coal mine. At our mine, we are operating at this time to start testing of a new scheduled 24 pieces of equipment under conditions that will be sufficient to do the work. We don't know what these results will be, but I'm optimistic as how they'll affect us in the future.

I appreciate the opportunity to address you this day and look forward to a better tomorrow for us all. Thank you.

MR. TOMB: Any questions? Go ahead.

MR. HANEY: The equipment use on long haul moves, is any of it equipped with after treatment devices?

MR. CURTIS: Yes, it's permissible scrubbers.

MR. TOMB: And what's the testing of new equipment? I sort of missed that.

MR. CURTIS: Well, it's dry filter -- similar to the technology we talked about today.

MR. TOMB: DST?

MR. CURTIS: DST. It's not them but the operator, Energy West, has been looking at and working with, and I

don’t have any --

MR. TOMB: Is that on one piece of equipment?

MR. CURTIS: Yes.

MR. TOMB: One piece of equipment.

MR. CURTIS: But it’ll be used the way all the other pieces of equipment of the miner use. So, I believe it’ll be an accurate test.

MR. SASEEN: Does that have a filter media on that piece of equipment?

MR. CURTIS: Yes. It has a paper filter.

MR. SASEEN: Paper.

MR. TOMB: Okay. Thank you very much.

MR. CURTIS: Thank you.

MR. TOMB: A Mr. Farrer?

MR. FARRER: It’s Farrer.

MR. TOMB: Farrer. Okay. From Local 1769.

MR. FARRER: Yes. I’m Bill Farrer from -- it’s F-A-R-R-E-R from Local 1769. I’m a member of the Safety Committee. I’m a classified diesel mechanic and have been for the last seven years, in different mines owned by Energy West, a subsidiary of Pacific Corp.

I’ve worked 23 and a half years at this mine. I’m 44 years old. I plan on working till 62. That’ll give me 41 years in this environment that we’re talking about.

I believe that we need to have some new

regulations. And the regulations shouldn't keep clear of just not the heavy duty equipment but the light duty. I brought this up at a meeting in Grand Junction.

I was up at the mine at Deer Creek a couple of years ago when they had the University of Michigan come in and test on the new machines comparable to what we're testing emissions with now. And some of the biggest polluters were the man trips and personnel carriers. On stalled speeds, they were producing up to close to 4,000 parts per million CO, compared to bigger equipment. The max was about 4,000 on some of the other big equipment.

When the new regs come out, I'd like to see at least half to test every diesel engine that goes under. Whether we have to scrub them or not, we should at least be testing them because if we get some that's out, you know, the operator could say just run it. That happens a lot. Just like me, when we used to have to test them before these new regs came in, we had to do a CO, NO_2 test on everything that is running under there on the new regulations just on the heavy duty equipment.

So, they can take anything they want in the mines. You know, I'm not just saying any mine. That there's no way to shut them down. And I brought this up at the meetings in Grand Junction. And what they told me, well, in '99 when the new regulations, they're going to have to monitor the

face. So, they'll know how much is in the air.

But there's a lot of guys that work around this equipment. We've got air compressors. We've got welders. We've got little Bobcats that move coal. I've seen them take 4,000 on the ECOM meters right now. And we're breathing this stuff. So, I'd like to see at least in the new regulations, we've got to test all the diesel that's under there to keep the standard.

And the piece of equipment Tain was talking about is 3306 Wagner and it has a dry scrubber. The guy that's designing it is Bruce Spence of Grand Junction, Colorado. And they're working with the company and they're trying to do a test on them.

That's about all I got, really.

MR. TOMB: Okay. Any questions? Okay. Let's take Ron first.

MR. FORD: You said you were a diesel mechanic. At your mine, do you have any scheduled maintenance on diesel-powered equipment? Is it like a routine schedule maintenance? Could you tell us how that works?

MR. FERRER: Yeah, we do a 100 hour service on it. The operators do a pre-inspection check every day. They change their filters, check everything. But every 100 hours the machines get serviced -- complete service.

MR. FORD: So, a major maintenance is done every

100 hours?

MR. FERRER: Yes.

MR. FORD: Okay. Is there any kind of a schedule set up or program set up whereby the machine is colluding in any way? There's some type of way to get it into service? What happens there?

MR. FERRER: All's we got -- we have to check the heavy duty with a ECOM. The light duty there's no emissions check or nothing. If that gets up to 2,500 parts, we've got to pull it out of service. That's all we've got.

But you know, they can keep records and see how the engine is wearing or whatever by these ECOM tests.

MR. FORD: They can keep records?

MR. FERRER: Yes, the company. Weekly, we have to do permissibility. We do install them and check the emissions on the big equipment.

MR. FORD: Okay. And I've just got one more question. And that is, concerning the after treatment devices or control technology that are concerned with DPM removal, diesel particulate removal, are you trained in any way to do service on those systems?

MR. FERRER: No. The one that we've got up here now, they've only run it a couple shifts. I don't know why because we've had it up there a couple of months. We're supposed to be testing it, so probably, you know, it could

have helped us out on these hearings if we would have been. But no, I've not been trained on them.

MR. FORD: So, if any of that equipment came into your mine, you would need to be trained as a mechanic?

MR. FERRER: Yes.

MR. FORD: Thank you.

MR. TOMB: John?

MR. KOGUT: When you're servicing these diesel equipment, roughly what portion of the time is the equipment running?

MR. FERRER: When we're servicing them?

MR. KOGUT: Yeah. Do you ever -- do you have it running when you're servicing it to some extent, or is it always just shut off?

MR. FERRER: It's always shut off when we're servicing. When we're doing the test, we're exposed to a lot of CO, because you know, you've got them stalled out to the max out on ECOM. That's two to four minutes you're standing back there, 600 parts.

MR. KOGUT: You mean, when you're doing the emissions testing?

MR. FERRER: Emission test.

MR. KOGUT: And what percentage of your time would you say in involved doing emission testing?

MR. FERRER: The guy that does most of

permissibilities, a weekend worker, and he does that probably two -- he works three days, probably half the time he's doing emission tests, I'd imagine.

MR. KOGUT: In half the time that he's there?

MR. FERRER: Yes.

MR. KOGUT: And is there some sort of a specially ventilated facility in which that's done?

MR. FERRER: Well, we live where it's cold. It's in the shop or in the mine. No, it's not being performed like a shed out in the open air to where he's not getting the emissions.

MR. KOGUT: Thank you.

MR. SASEEN: Mr. Ferrer, this Wagner you spoke of, is that a scoop?

MR. FERRER: Yeah.

MR. SASEEN: And does that have a filter?

MR. FERRER: Yes. It's got a paper filter. They -- alls I've heard about it, you know, run it a couple of shifts, it's run great, real low CO when you're running the max. But when they're idling it, they plug them up because it's not hot enough to burn it off in their PTX, I guess, before it gets to the filter.

MR. SASEEN: And can you say from experience, it's probably limited, is there definitely a difference in air quality when the filter is on versus not ont?

MR. FERRER: Yeah, you can stand behind it and breathe it right out of tail pipe practically. Pat Worthy's behind me for Energy West. Maybe you can talk him into coming up and telling you a little bit about it.

MR. SASEEN: Thanks.

MR. TOMB: Okay. I have one question, Bill. Can you -- you know, you talk about the light duty equipment and how you think it should be filtered also, can you sort of give us some relative operating times for that equipment versus what's defined as heavy duty equipment?

MR. FERRER: Well, I know -- okay. Man trips. We got three crews in that mine on each shift. They've got two miner sections, one long haul section. So, that takes care of three pieces of equipment. We've probably got 45 to 50 pick-ups out there.

MR. TOMB: Okay. But are these all -- these aren't operating for the full shift, are they?

MR. FERRER: No. The only ones that don't I would say is the man trips. They take the crews in. They shut them off, and they start them up and bring them out.

MR. TOMB: Okay. That's about an hour, an hour and a half?

MR. FERRER: About an hour probably.

MR. TOMB: But two hours a day probably?

MR. FERRER: Yeah.

MR. TOMB: Okay.

MR. FERRER: But the rest of the equipment -- there's people running around that mine all the time. I mean, that's what I'm saying this light duty stuff, there's fire bosses going all over the mine. There's diesel mechanics that went on breakdowns, you know. There's punters. There's bosses traveling all over. Belt mechanics. Breathing that air that's in the mine that these trucks are buzzing around in, that air's going into the sections, and them guys are breathing it. That's the way I look at it.

That's why I say we ought to at least be checking them, whether we have to put filters on them or not was another thing. If we check them, we can tell them we're getting too high of emissions out of them and pull them out of service.

MR. TOMB: You think that once the check is made that they can be -- whatever has to be done to them, maintained or tuned or whatever done, that gets them back into a condition where they can be used that way without filtering them?

MR. FERRER: Well, I wouldn't dare say that.

MR. TOMB: Okay.

MR. FERRER: What I've noticed since we haven't had the check and the stuff up there, we used to put the

catalytic converters on our Isuzus and stuff. When we change an exhaust system, we don't even put them back on now, because we don't need them. We don't have to check them.

MR. TOMB: Because of the safety rule?

MR. FERRER: Well, you guys just changed the rules that just came into effect. That one we don't have to check anymore. So, that's what I'm bringing to the panel.

MR. TOMB: Okay. Any other questions? Thank you very much for your comments.

Mr. Hampton from Local 1984? I'm sorry, Bill.

MR. HAMPTON: My name is Monty Hampton, M-O-N-T-Y H-A-M-P-T-O-N. I'm from Local 1984 UNWA. I've been with Des Auto Mine for approximately six and a half years. I'm a diesel -- not diesel. But I'm a mechanical electrician out there. A safety committeeman.

And I feel that we need to get a lot stricter on the diesel. We run diesel in and around the mining sections and long haul loops. And we do have diesel man trips, which is running around the mine all the time. And it concerns me because -- since the new regs came in, we haven't go to any lengths to correct the problems with our emissions on the man trips, especially the scoops. We kind of got a control on them because they're being checked weekly.

Your out by equipment, there's no check on. The

scoops as far as being rebuilt or anything, we've got one scoop we've had for years that's never been out for a rebuild or anything. And the man trips, they just -- we run them till they don't run no more.

And it seem like we need to get a handle on it. And as far as the laws, I think we need to go with Pennsylvania laws. They seem to be pretty strict. And I think we need to do the same thing out here.

And we keep hearing about cost. Well, to me a person's life is far more greater than the cost of repairing equipment. And I just think we need to get more of a handle on it. And that's pretty much all I had to say. Appreciate your time.

MR. TOMB: Any questions?

MR. SASEEN: Mr. Hampton, as a mechanic, do you do work on the engine itself, or is that contracted out to like a dealer -- engineer/manufacturer, dealer?

MR. HAMPTON: We really don't do much work on the engine itself other than just to, you know, changing alternators or something like that. But as far as the injectors or the fuel system, we don't work on it.

MR. SASEEN: If there is a problem, who do you call?

MR. HAMPTON: We have a diesel mechanic.

MR. SASEEN: An the mine or --

MR. HAMPTON: At the mine.

MR. TOMB: I guess this question is similar to the previous one I asked. But on your man trips, you say they're running all the time. Is this again -- are they operating eight hours or six hours or at the beginning of the shift and the end of the shift, or just how are they operating?

MR. HAMPTON: We have man trips that's running around the mine all the time. We have John Deere tractors that's running around the mine all time. And we have a middle section that's running back and forth all the time in the section. And we have Wagner scoops that's running around all the time.

MR. TOMB: What are the John Deere tractors used for?

MR. HAMPTON: They were used for hauling material.

MR. TOMB: Is that considered light duty equipment?

MR. HAMPTON: Yes.

MR. TOMB: Okay. Thank you.

Okay. At this time if I could take a 10 minute break, and when we come back what I'd like to do is have Energy West make their presentation, and then we'll go back and pick up with presentations by the United Mine Workers. Thank you.

(Whereupon, a short break was taken.)

MR. TOMB: Change in schedule. We're going to continue with the UMWA presentations. We have only two more. And then we'll go to Energy West presentation.

We'll now have a presentation by Mr. Montgomery from Local 2176.

MR. MONTGOMERY: My name is Cameron Montgomery. C-A-M-E-R-O-N, first name. M-O-N-T-G-O-M-E-R-Y, last name.

I'm a safety committeemen for Local Union 2176 out of Orangeville, Utah. I work for Energy West Mining Company. I've got two years experience underground at Kaiser Steel. Worked at Valley Camp, Utah for four years. And I've been at Energy West Mining for just under 14 years. So, I've got about 19 years in the mining industry.

I like my job. It's a good job. It pays the bills. I raise my family out of the wages I make up there. I need to be an efficient, productive, safe coalminer. My company's got to make money to employ me. I know these things.

When -- at Valley Camp we experimented one time. It's been years ago. I was running a continuous miner and we brought in three Jeffrey diesel shuttle cars behind a miner and pretty well stunk out the place. The section was bad. Visibility was poor. Diesel particulate matter was terrible in a section.

Personally, I've had bronchitis about five times and sinusitis so many times I can't even count them anymore. Worked on over 40 long haul moves in a row as we'd move the long haul from panel to panel for Energy West Mining Company on a Wagner LST5S20X, 25X, 30X. We keep getting bigger, better, more break horsepower machines to move bigger, more efficient heavier stuff around on a long haul move.

So, I've worked all these long haul moves. Visibility is usually poor because you got two, three, four, five hand pieces of heavy duty equipment in one locale. Our company's and the union's worked together by using some administrative controls to limit the number of types of diesel equipment in the area.

The law mentions in various areas of event regs carrier way, render harmless, dilute, coal dust, rock dust, diesel. You can't do it with diesel. You're in a close circuit. It's going to dilute a little bit, but even the equipment operating out by is going to effect you in working a section because that air's coming over you. You're breathing it. It might be in diminished quantity, but you're breathing some contaminants no matter where you're at when they're operating diesel equipment in the mine.

The best way to cure that is to take care of it at the pipe where it comes out of the exhaust of the diesel, in my opinion. All this information I'm giving you is

empirical data. I'm not a rocket scientist. I'm a coal miner.

Long haul moves. Poor visibility, lot of orange 10, NO, CO. Visibility's poor. No one's -- a lot of people's mentioned sore, dry throats. Real common occurrence with running this stuff continuously for a week or two weeks steady moving long hauls.

Nobody's mentioned anything about -- we seem to separate pneumoconiosis, silicosis, dust, rock dust, quartz, silica, diesel. When you're running one of these pieces of equipment, you're going down a coal mine after it. Exhaust is blowing rock dust off the ribs. You're picking up coal dust off the ribs off the top. You're running over -- we have gravel in our coal mine, the same as silica, quartz. It's rock. You're mixing all that stuff in a dust bowl. It reminds me of Snoopy and Linus walking around, if you recall that. You know, he's always walking around in a cloud of dust. That's how it is when you're running a piece of diesel equipment.

Ten years ago I read industrial hygienist reports. I've got a boxful of them at the house on the carcinogens in diesel exhaust. For years we've know that there's not one good thing that comes out of a tailpipe of a diesel for the human body. There's not. We know this. We talk about time. We talk about more tests, meanwhile coalminers have

been working underground inhaling this stuff. Okay?

The railroad did a thing and it's been 10 years ago at a union meeting that I read industrial hygienist report from some pretty good people I understand in the industry on what the rail workers went through when they changed from steam locomotives to diesel. And cancer rates in their employees increased significantly. I'm not going to mention a bunch of statistics and stuff like that. But they found years ago that they were having problems with people inhaling diesel fumes.

We need diesel in the coal mines. The mobility, logistics-wise, it's great. I worked at Kaiser Steel back in 1979 and '80, all electric. Electric battery cars kind of move shil. If you run out of juice, you were down. I mean, you ain't going anywhere. Very slow, very lethargic way of moving equipment around. The mobility of diesel equipment's great.

But you got a whole generation of miners right here that are the guinea pigs for this diesel stuff. The guy from Consel and Peabody mentioned costs. Costs are important, but they mention costs 30 to probably 50 times during the course. Not one time did anyone mention the health and safety of a coalminer in the underground workings of a coal mine.

Now, I imagine if there CEO is probably not down

in the mine as much as I am. I do probably 60 hours roughly a week in a coal mine.

I'd like to comment on the rule. I think MSHA's made steps in the right direction through the last few years. I've been to all kinds of informational meetings in Grand Junction, Colorado on diesel equipment, on heat exchangers, on cleaning them up, surface temperatures. Better fuel. Cleaner burning motors. I think the motor burns cleaner, puts out less contaminants if you get better fuel or sulfur fuel, less contaminants.

That's a step in the right direction. It really is. But it's almost too little, too late. What do we got to do? Supply you guys with a bunch of corpses? Whip up some good statistical data on what diesel does to people? You know, in the asbestos industry, black lung silicosis in the mining industry, you literally -- we waited for people to die to decide whether it was healthy or unhealthy to use this type of equipment or expose people to this type of stuff.

As I said, I like my job. I try to be a safe coalminer. I went up there to work and make money. I didn't go up there to die for anybody.

These gentlemen back here mentioned being affiliated with DST and their scrubbers. There's a lot of technology out there. There's no doubt that there's

improvements that could be made in technology, cost efficiency and the scrubbing capabilities. No doubt. We, as an industry, should have demanded this stuff 10 years ago, and then we'd be in the second, third, fourth generation of technology that's better and above we're looking at dealing with now. Sure, it's imperfect. No doubt. Everything is imperfect.

My -- just being curious, I'm wondering why the gentlemen that's involved in DST don't have any of these -- put on any of their mining equipment, just out of curiosity to see what it did. Or to me, it seems that lowering the contaminants a little bit is better than not lowering them at all. Cutting your exposure rates and times for your individuals working underground.

And we mentioned costs. Hey, costs are important. We've got to be cost efficient productive. It's a tight market out there. But the mention of $36,500, $50,000, $60,000 for a petite muhl. I work on a U4D longhaul prop right now. That petite muhl is probably the one piece of equipment that needs scrubbing before anything because of the negative effect of the people working in by it, in an extraction phase, removing a long haul.

What are the costs of say $60,000 to retrofit a petite muhl? That's a chunk of change. But what are the costs of the local community, the state and Federal

Government, families of people that are literally going to be dying from too much exposure to this stuff? I mean, your $36,500 to retrofit an outfit is minuscule into the cost of curing cancer for one patient.

You know, we don't know how many people are going to get this stuff. We've got all these great estimates, one in a thousand. The Supreme Court seen some concern in the one in a thousand number. I guarantee it's going to be a lot higher than one in a thousand.

One the gentleman on the panel mentioned face haulers. I work at Energy West Turner Mountain Mine. We don't use any kind of diesel for hauling equipment. But as I said earlier, that there's a lot of equipment that's running out in a mine. I've been involved in ambient studies with MSHA tech reps and stuff in our two entry petition many times. And you can see the CO, NO, SO_2, CO_2 spikes is equipment goes by, yet alone the residual -- what's left, slowly comes out the return, and you can actually elevate certain areas of the mine by a piece of equipment in the past 15, 20 minutes. You know, the dust might be gone and the other stuff might be gone, but the gases are still trailing along behind it.

I just want to thank you for the opportunity of being here and talking. You guys obviously are concerned. You're here. And if there's any questions I can help you

with, feel free.

MR. TOMB: Thank you, Mr. Montgomery.

MR. SASEEN: Is a petite muhl does that have a -- is that permissible?

MR. MONTGOMERY: Yes. Schedule 30, part 36.

MR. SASEEN: It has a wet system on it, a water scrubber?

MR. MONTGOMERY: Yes, yes. And most of the Wagners we've gone through 20, 25Xs. We're now up to 30Xs. They do all have wet scrubbers on them.

And I've got to tell you. Our company, we've experimented with Calgar different soaps to add to the water. And I believe they're trying to make an effort in the area to reduce contaminants the air. But we need to strive to do better in the industry without financially tripping us.

MR. SASEEN: Has there been any efforts to put like a paper filter, in your experience, on any wet system in your mind?

MR. MONTGOMERY: The first mention I've ever heard of a paper filter was at the Deer Creek Mine, which is our sister coal mine. Same company operates it. They're experimenting right now, and obviously, it hasn't gotten too far along that.

So, I don't know too much about it. I've read a

lot of information on different scrubbing setups.

MR. FORD: So, my understanding is that there's no face haulage equipment. That is the problem. That the problem with diesels is mainly on the out by equipment that you're having?

MR. MONTGOMERY: No. It's mostly heavy duty equipment. We've limiting the number of type that goes in an air course. We're running two entry systems, one way in, one way out during development, or during the longhaul phase, you've got your belt, is an intake, as well as your intake. And it's going down the face and returning outside the side of the face.

But in our development sessions, they do run some diesel scoops for mostly material supply in a production section developing longhaul. And we've had problems with them in that in a two entry section, running bratage for tubing and return fast, that it's really tough to be mining in an adjacent entry if you've only got two of them and being supplying a roof holder in the entry next to it and have the proper CFM over that type of equipment. If you're with me on that.

MR. FORD: What type of equipment are you talking about where you can have up to five pieces in one area?

MR. MONTGOMERY: Mostly intersections they'll do the administrative controls in our two-entry position.

We're limited by CFM the number of equipment. And we bounce around with a 100 percent approval label for the first two, 75, 50/50. But the limit it by CFM. If you've got the CFM to have four or five pieces of equipment in a single split, they'll be there. And each piece of equipment restricts the air course just a little more, raises ambient temperature due to the heat of the engine and the hydraulics of the equipment. And when you get a bunch of them stacked on top of each other, conditions seem to get a lot worse, as far as visibility contaminant-wise.

We've had experiences -- we run a lot of Dodge man trips, personnel carriers. They're a Dodge machine. Got Cummins diesel motor on it, sheet metal box, roll cage to haul the people in and out of the mine.

Now, I work in Utah. It's cold part of the year. Diesel doesn't have a real good affinity to cold weather. They'll fire those man trips up a little early to defrost the windows and get the cab warm. I've experienced times when I got my mind forming filling out papers, and occasionally carried detection equipment, 270s, 310s, 410s, CO260s, 240. And I've seen CO alarms in the riding compartment of these Dodge man trips from starting them up. Diesel seemed to run cleaner when they reached ambient temperature, but on initial starts, you're pumping out a lot of black soot and contaminants until they reach operating

temperature.

And I believe people are negative affected. A few people that I know is not really that great a problem have gotten sick to their stomach and a little bit nauseous being exposed to too much of that.

MR. FORD: Thank you.

MR. TOMB: Any other questions?

MS. WESDOCK: I am was just curious. You said that your mine -- they use administrative controls.

MR. MONTGOMERY: Yes.

MR. WESDOCK: Could you tell me -- I mean, what type?

MR. MONTGOMERY: I was involved as a mine health safety committeemen in the two entry position. And we've adopted administrative controls by definition is limiting the type and quantity of diesel equipment in a particular air strip, I believe is about as close as I can give you on that.

MR. WESDOCK: Thank you.

MR. TOMB: Okay. Thank you very much, Mr. Montgomery for your comments.

Next, will be Mr. Linville from Local 1307.

MR. LINVILLE: Good morning. I'm Kenneth Linville,
L-I-N-V-I-L-L-E. I'm Safety Committeeman for Local 1307,

Timmer, Wyoming. I work for Pittsburgh Midway Coal Mining Company for 22 and a half years.

We are a surface mine but we do have problems there. And I was wondering if I could enlighten you a little bit on our problems. In the enclosed areas of our shops for adequate ventilation, we have approximately 90 miners that are mechanics. And I'll give you a little bit of a background on what they do.

Inside these shops, sometimes the weather conditions are such that you can't open the doors to get proper ventilation such as when it's 20 below to 40 below zero and that time. Part of the shop is old and it doesn't have adequate ventilation. That's where the build-up problem comes from.

Whenever you're test loading a diesel electric truck, that's a load box, you're placing the engine under full power over a period of time, trying to set up the electrical drive on the trucks. Not only that, the diesel's setting up your fuel pumps and stuff like that to get everything to coincide to work together. It could take up to three hours and you're spewing this fuel -- smoke out, in this enclosed area within adequate ventilation.

I've gone in there at times to pick up a piece of equipment when the smoke's so bad my eyes are burning, tears running out of my eyes, my nose is burning, trying to get

that piece of equipment out of that shop. I don't know how the other people stand to stay in there, but I'm just in there for a short period of time, 10 to 15 minutes. The mechanics work anywhere from eight to twelve hours depending on when they come in, so they're exposed to it at quite an expensive period of time.

There could be more than one test going on a different piece of equipment. We're running 240 ton cap trucks. We're running D -- it's either -- they're Caterpillar R10Ns I think is what they are. We're running blades in there, 16G blades, running R170 Euclid trucks. A lot of this equipment has 16 cylinder engines. They put out 17 -- between 1,700 and 2,300 horsepower. They burn approximately 75 plus gallons of fuel an hour. So, if it takes you two or three hours to set up one of those trucks, you're spewing out a lot of diesel fuel or diesel smoke in that area. And you can't get the smoke out of the shop in the proper manner.

So, these are some of our problems. Also, and when you're testing, you're testing your hydraulic system. You have to have the engine running. You test your transmission, you have to have your engine running. When I go back and say, testing transmission, I'm talking about a cab truck with a six speed automatic. The other truck's a 170 Euclids. They're diesel electric.

Sometimes when you're assembling the pieces of equipment on some of these trucks, you have to have the engine running, so that creates smoke and stuff in that truck and there's a build-up in the shop.

Other problems that we have is malfunctioning equipment. We're talking about turbochargers, fuel injectors, pumps, air induction systems. There's a lot more. Too many to mention. I'll just go with those.

This improper burning creates an improper burning of fuel which is a real black smoke that builds up inside the building and it doesn't take very long to really just pollute the whole place. It takes a long time to get that smoke out of there.

I want to go on to the surface equipment, where we have problems with surface equipment such as trucks in the cabs are not sealed good. Again, that comes back into weather conditions, where sometimes you'll have your exhaust pipes are cracked. Some of them are deteriorated. Sometimes they use a flex pipe, which is not a very good pipe to use on your exhaust. It creates a leak. Comes up underneath cabs, up on around them and it seeps inside.

A lot of our trucks are over 15 years old, so the weather stripping's bad. The channel around the windows are bad. Windows that didn't recut because they don't use factory windows. They recut windows. Sometimes they're not

cut adequately, which creates a leakage. So, you know, coal dust will come in or fumes or anything like that.

Those things -- and when you can't get around and move around in those trucks and you're sitting there getting loaded, and it takes a period of time to load one of those trucks, about eight to nine minutes, you're sitting there with that smoke and stuff coming up and your eyes are burning. Some people have been nauseated. I've had two people come up to me in the last few weeks with this problem, and we're trying to get it fixed up right now, trying to get the trucks fixed up. Some of its due to the engines are real bad. They need to be replaced. Company doesn't want to replace them.

One of them was a split pipe coming off of the turbocharger going back to the exhaust. And people were just running for whatever reason. I don't know. But when I got on it, I shut the truck down and we got it fixed.

But there's things like that that do happen and you got to understand that when you're sitting there and you've got one of those 16 cylinder engines pumping up around you and you don't have wind to take it away from you, it just keeps coming up in that cabin and makes you sick.

When I talk about weather inversions, I want to talk about the pit itself. Our pit's about a mile and a quarter wide to about almost a mile deep back, and

approximately 1,100 feet deep. And sometimes down there, we'll have at least two dozers running, a drill running, a rubber tire dozer running, front end loader running, and anywhere from six to ten trucks. Depends if have a shovel down in there.

And when you get a weather inversion, that diesel smoke and dust and stuff just hangs down inside that pit. There's no wind or anything to come to suck it up out of there. It's just stagnant. In the winter time, in graveyard shifts, it creates a hazardous scene and breathing, stuff like that.

Being a truck driver, I kind of get a little bit lucky because I can get up out of there for a few minutes, but I return right back down there. But there's people in the rubber tire dozers, drills and stuff like that, are trapped down in there and spend a full eight hours in that area around those fumes.

Those are a few of the things that my local would like you people to understand, and we'd like to bring forward to you. Although, we are a surface mine, we do have problems with diesel smoke. They can be fixed. And we would like for you to at least listen to us and think about us when you go on with what you're doing. But there are problems.

I'll just it off right there. If anybody has any

questions, I'll try to answer them.

MR. TOMB: Okay. Jon has a question?

MR. KOGUT: In the enclosed shops that you were talking about, is there any system for exhausting to the outside air?

MR. LINVILLE: Yeah, the shops are -- the particular shop I'm talking about what built back in the '60s. They have a real slow turbine fan. And it's not just actually -- I think those could be changed to bring in -- suck that air out, but there's so slow, and they've never ever changed it. You know, I know it's brought up before, but it's never been taken care of.

MR. KOGUT: So, it's just an exhaust fan for the entire area. Is there any kind of a hood system?

MR. LINVILLE: Are you talking about a dome?

MR. KOGUT: Yeah, something that you would place over. Anything specific to the piece of equipment where the exhaust --

MR. LINVILLE: To hook to the exhaust system and be exhausted out?

MR. KOGUT: Yeah.

MR. LINVILLE: No. Well, sometimes, you know, your trucks that are different heights, the exhaust comes -- sometimes it comes through the bed, the exhaust outside. Some of them -- the new cab trucks, they have two exhaust

pipes coming out the side which could be retrofitted with like a hose or something to shoot it outside.

Some of that's -- sometimes you have the bed in the air, you know, which creates a -- you have to come down underneath. You have tripping.

MR. KOGUT: Have you identified this problem just in one of the shops?

MR. LINVILLE: Well, we have one shop, and it started out. They just kept building on from, you know, from 1960 on up till now.

MR. KOGUT: What about the other shops?

MR. LINVILLE: We have a brand new shop that was built. It was just completed a couple years ago, and I think it'll cycle the air out in approximately eight to nine minutes.

MR. KOGUT: So, as far as you're concerned, do you think that the problem in this one shop, the older shop, that that could be addressed by improving the ventilation system?

MR. LINVILLE: Oh, absolutely, yeah. If you could put in some fans, something similar to the one that we got in the new shop that you recycle the air within 10 minutes would make a tremendous amount of difference.

You sit up there and think about the truck that sometimes it may take you up to two to three hours under a

test load to get the thing working, and you're running 75 gallons of fuel through there an hour, that's a lot of smoke.

MR. TOMB: Are you done? I guess one question that I had, Ken, is if -- it sounds like other than the shop area -- all right, that you're talking a lot of maintenance problems that are causing the exposure problem. Is that a fair assessment?

MR. LINVILLE: Within the trucks itself?

MR. TOMB: Yes, right.

MR. LINVILLE: And the cabs?

MR. TOMB: Yeah.

MR. LINVILLE: Yes, uh-huh. We keep on them trying to get the window stripping and stuff updated. And you have to do that all the time. But I've never seem them -- in my 22 and a half years, I've never seen them change the window channel, you know, and stuff like that. And sometimes the windows are cut not correctly, even the windshield. And they've gone as far as to put -- it's not a caulking compound, but it's like a gasket seal up in the corners because the glass just wasn't cut right.

MR. TOMB: Okay. We thank you for your comments.

MR. LINVILLE: All right. Thank you.

MR. TOMB: We appreciate it.

MR. TOMB: Okay. Our next presentation will be by

Energy West.

MR. TATTON: Good morning, Mr. Moderator, Ladies and Gentlemen. We appreciate the opportunity to present testimony today on the provisions of MSHA's proposed rules --

MR. TOMB: Excuse me, one moment. You want to give your name?

MR. TATTON: I will.

MR. TOMB: Okay. I'm sorry.

MR. TATTON: On the provisions of MSHA's proposed rules "Diesel Particulate Matter Exposure of Underground Coal Miners."

I am Randy Tatton, Manager of Health and Safety at Interwest Mining Company. And with me is Kevin Tuttle, Manager of Health Safety and Training at Energy West Mining Company. We submit this joint testimony in behalf of our company, which operates two large underground coal mines in southeastern Utah. This business unit employs five hundred miners and produces approximately eight million tons of coal annually. Diesel equipment has been operated safely and economically at Energy West's mines for more than 20 years.

It is our objective to provide each employee with a safe and healthful work place and to achieve excellence in our business activities through continual improvement. The safe and efficient use of diesel equipment is critical for

us to accomplish this goal.

The intent of the Agency's proposal is to reduce the health hazards that may be associated with exposure to diesel particulate matter. Energy West Mining Company fully supports this effort if we're confident that the requirements are well-founded, reasonable, cost effective and feasible. At this point, we do not believe that to be the case. We submit these comments for your consideration prior to the finalization of the proposed rule.

MSHA has relied upon several studies to justify its conclusions that exposure to diesel particulate matter contained in diesel exhaust causes significant health risk. This has been done notwithstanding the fact, by its own admission in the preamble, that most of the evidence in those studies is relatively weak. We have many doubts about the conclusions of those studies. Specifically, they do not positively demonstrate health risk to miners.

We believe the Agency has chosen to ignore data that could provide a valuable insight into the present health status of miners. Employees at Energy West Mining Company and other operations in the West have worked in excess of 20 years with exposure to diesel exhaust. These are baseline tests, chest x-rays, and lung function tests that could provide an understanding of their present health status. It must be noted that we have not seen evidence of

respiratory tract disease, especially cancer.

This proposed rule would require mine operators to install filtration systems with a particulate removal efficiency of at least 95% on permissible and non-permissible heavy duty equipment. We do not believe that current technology used is capable of achieving this type of efficiency. Data that is currently available indicates that efficiency rates are well below 95 percent when using an eight-mode test cycle.

Our experience at Energy West Mining Company is that high altitude has an extreme effect upon the performance of these types of filtration systems and overall engine performance. We do not believe that devices that would be required by this proposal have been tested sufficiently at high elevation or in actual mine conditions to determine how they will perform. The Agency must take this into consideration prior to the development of a final rule, because the vast majority of diesel equipment used in the mining industry is located in geographical areas where high elevation is a factor.

The implementation of a regulation that mandates a single design-based questionable and unproven technology to control diesel particulate is not feasible.

Energy West Mining Company strongly suggests that this regulation, when finalized, provides mine operators

with an integrated approach to the control of diesel particulate. MSHA has expended substantial time and money developing the publication "Practical Ways to Reduce Exposure to Diesel Exhaust in Mining - A Tool Box." The Agency is not proposing a rule that does not allow mine operators the benefit of these tools and mandates only one means by which to comply.

This proposal provides no flexibility for mine operators to act on a very complex issue. It provides no incentive for mine operators or engine and mine equipment manufacturers to create new methods to control diesel particulate other than filtration systems. It discourages the development of new technologies, which may be more effective to control diesel particulate or that may be more cost effective.

Energy West Mining Company supports regulations that adopt an integrated performance-based approach to control diesel particulate. The final rule must afford mine operators flexibility to chose the most cost effective, feasible combination of controls. For example, cleaner burning engines, low sulfur fuel, oxidation of catalysts, ventilation, filtration systems and administrative controls.

We will work closely with the National Mining Association in an effort to develop an alternative approach that will afford miners great health protection. We will

provide comments and recommendations on this approach prior to the end of the comment period.

We also contend that the proposed 18-month period from the rules finalization to the effective date of the initial requirements is unreasonably short. The final regulation must provide mine operators sufficient time to obtain new equipment, retrofit existing equipment and to implement the use of such equipment into the miners. Based on previous experience, we have found that the installation of one dry particulate filter can take several weeks.

Energy West Mining Company presently owns and operates 57 permissible and 12 heavy duty non-permissible pieces of diesel powered equipment. All of this equipment under the present proposal would require retrofit with a 95% efficient filtration system. With utilization of presently available technology, each filtration system would have to incorporate the use of a paper filter.

Cost estimates of presently available filtration systems are: Installed Cost on permissible unit - $36,500.

Note: This cost is representative of a typical 100hp application. Costs are certainly much more for higher horsepower installation or retrofits when structured modifications are necessary.

Installed Cost on a Non-permissible heavy duty unit approximately $25,000.

Energy West Mining Company operates each unit about 3,500 hours annually. We have limited experience using paper filters in conjunction with this type of filtration device. Based upon demonstrated costs and experience at other coal mining companies that have used paper filters in similar applications, we estimate that costs can be a high as $10.00 per operating hour.

Based upon these estimates, the costs at Energy West Mining Company for compliance with this proposal would be $2,380,500 for the retrofit of presently owned equipment and potentially an additional $2,415,000 annually for filter replacement plus labor costs for changing the filters.

We feel that MSHA has grossly underestimated the economic impact this proposed regulation, specifically, 75-500(a) and (b) will have on this industry.

Mr. Tuttle will continue with some additional testimony.

MR. TUTTLE: I'd like to provide comments to the mine ventilation plan comment and the health training.

Mine ventilation plans are a very important part of mining and contain information specific to each operation. Plans should be small, easy to read and understandable. The trend for ventilation plans is to become larger with complicated contents that are subject to interpretation. The approval process becomes labor

intensive for MSHA and mine operators. Efforts should be made to reduce the size of plans instead of adding more information that could be addressed in the regulation.

We encourage MSHA to look at this proposed regulation closely. Will it reduce paper work for MSHA and companies, or will it just be another portion of a large document called a "Ventilation Plan?" MSHA has the ability and opportunity in this rulemaking to simplify the process.

This proposal requires that the operator provide "a list" of diesel-powered units used by the mine operator together with information about any unit’s emission control of filtration system. We feel this list can be addressed in this proposed regulation by: (1) requiring a copy be made available at the mine site, (2) posting at the minute site, or (3) other acceptable means that would make the list available to interested persons. This approach would allow the list to be updated without going through the plan approval process.

We encourage MSHA to look at this portion of the proposed rule and to consider the impact it would have on the plan process. We oppose requiring this list being part of the ventilation plan.

This proposal requires that all miners reasonably expected to be exposed to diesel particulate on the property to be trained annually. This language is confusing and too

all encompassing. This could be interpreted in the strictest sense to mean a one time exposure once a year. The Agency should revise this section to insure clarity.

MSHA has proposed that the operators train minors in the health risks associated with exposure to diesel particulate matter. When reading this proposed regulation, several questions come to mind such as one, what are the specific health risk MSHA proposes on which the operators train? Two, are the health risks those identified in the preamble, such as sensory irritations and respiratory symptoms serious enough to distract or disable miners, death from cardiovascular, cardiopulmonary or respiratory causes, or lung cancer? Three, are the health risks those identified by an Agency, or will it just be those that have definitely been demonstrated with good science?

Training needs to be meaningful, and the material must be understandable. If an instructor feels unsure of what is required in training sessions, learning will suffer.

If there are ambiguities in a regulation, then MSHA must make the regulation clear. The Agency needs to be specific about what they want or they will spend their time interpreting question in an other "Questions and Answer" document like those on other regulations that were not ready to be enacted. If a regulation is vague, it will only cause misinterpretation and non-compliance problems. We urge MSHA

to look closer at this proposed regulation and focus on how a company could comply with a regulation having so many unanswered questions.

Energy West Mining Company plans to submit additional information prior to the closing of the comment period that will recommend an alternate approach to this proposal. We do not agree that MSHA has appropriately evaluated the health risks associated with exposure to diesel particulate matters in underground coal mines, although we do not accept that it is medically advisable to take action to limit the exposure of underground miners.

We recommend that the Agency proceed with a performance-based final rule that is economically and technologically feasible. The final regulation must not incorporate a design-based approach that requires only high efficiency filtration system.

We appreciate the opportunity we have been afforded today to provide this testimony and will gladly entertain questions, if there are any.

MR. TOMB: Jon?

MR. KOGUT: I take it from what you just said you weren't necessarily opposing including information about health risks in the training. But you were really addressing the question of what health risks would be addressed?

In your subsequent submission, are you going to be making recommendations to that effect as to what health risks you would propose that we address?

MR. TATTON: Yeah, I would probably address some of those. It's just, you know, the preamble identified some health risks. But is that all inclusive? When you get to a training situation and you start training, if I'm monitored by an MSHA inspector, and he says, "You're not covering the health risks. You've not given me help on identifying what health risks you're talking about."

MR. KOGUT: Yeah. I guess my question is, will you be giving us some suggestions or recommendations as to what you think should be included in that kind of training?

MR. TATTON: Yeah.

MR. KOGUT: I have another question, which -- or it's not -- yeah, it's a question, but also a statement.

You said that the Agency has ignored some relevant epidemiological data. And I just want to make clear for the record that the Agency did not deliberately ignore any relevant data. If we overlooked some data, it was by oversight, not by any kind of a deliberate action. So, that if you are aware or have some epidemiological data or references to epidemiological studies that we didn't include, we would be very grateful to have you give us those references and any data that you might have in your

operations that we would take into account.

MR. TOMB: George?

MR. SASEEN: My understanding from some previous speakers is that have an experimental Wagner scoop at your facility, at one of your mines?

MR. TATTON: Glad you asked that question, because I intended to clarify for the record a little bit about that system and the arrangement.

Energy West Mining has for about three years now worked in a cooperative effort, both financially and by donating our machines and our mines with two different companies, Getlin Corporation and Cooling Systems International out of Grand Junction, Colorado.

In fact, there's a company that's been formed that would hope at some point to be able to not only develop a system, but to market a system that might be available in the industry. The name of that company is Diesel Treatment, Inc.

And at this point, as alluded to by some of the other people making testimony, we have a three and a half Wagner scoop at our Deer Creek mine that is in the process of doing some testing of that system.

There was also testimony to the effect that we haven't used the machine much, and there's a valid reason for that. The particular filter that is in place on the

machine does not have approval to be used in the -- by application. So, it essentially makes a machine that is very limited in its ability to do work for it. It has an LHD or it has a bucket. And so, it's essentially a machine that only can be used to haul gravel in the mine and so on.

Another problem is that we had a memorandum of understanding with our union folks at the mine that at least at this point, would preclude the use of that machine to entry system. Therefore, it also makes the machine that doesn't have the ability to haul materials into the mine.

We're in a process right now whereby we're putting a larger bucket on the machine, and we're working up a protocol and have been in communication with our friends in the union. And would hope to be able to come an understanding that would give us the ability to use that machine in our two entry systems. And also at that point, the ability to use it every shift in the process of hauling our materials into the mines. And so, we can give that a real good test.

Are there any other questions? That's essentially where that system is now?

MR. TOMB: Is that something that's going to be coming up in the short term? I guess if there is some information that you could share with the Committee, that'll be before the end of the comment, that --

MR. TATTON: We have done some preliminary testing on the emission. And indications are that they would be similar to some of the other filters that are on the market. I can tell right now it's not 95 percent. There's still a lot of work to be done.

As far as the timeframe for the machine, it's a machine that would have to go through the approval process to get Schedule 31 approval. And we all know how long that takes. And so, it is a ways down the road.

MR. TOMB: Were those laboratory tests that you're saying you don't think will meet the 95 percent, or is that in-line tests?

MR. TATTON: They were actually tested or conducted in a shop. They were conducted with the aid of Michigan Tech and Dr. Don Johnson. So, we feel confident that the testing is pretty good. They were not -- there are no in-lab tests for that.

MR. TOMB: In-line, you mean?

MR. TATTON: Huh?

MR. TOMB: In-line tests, are you saying, or in-lab?

MR. TATTON: No, they were in shop.

MR. TOMB: In shop.

MR. TATTON: Yes.

MR. SASEEN: Can you share that data with the

Committee?

MR. TATTON: I can't at this point. I'd be glad to put some information on a final comment.

MR. SASEEN: Okay.

MR. TATTON: But I'm just not in a position right now.

MR. SASEEN: Well, yeah. The final comment. Can you also include some cost information of --

MR. TATTON: Yes.

MR. SASEEN: I think you stated $36,000 for 100 horsepower. Is that with that system, or is that with another?

MR. TATTON: There had not been any firm costs developed as of yet. I will try to provide some estimates what that may be in our final comment.

MR. SASEEN: And you also gave the 25K for non-permissible. Could you also maybe --

MR. TATTON: Actually, we took that figure from the preamble and MSHA's estimate of what those costs are. And then I think those costs are reasonable.

MR. SASEEN: Okay, thank you.

MR. TOMB: Ron?

MR. FORD: I guess just to clarify again, the $36,500 -- when you talked about that cost, you talked about it as an installation cost. But you mean also that's

purchase and installation?

MR. TATTON: We've had some quotes, and to the best of our knowledge, that would be installed cost for, as alluded to in other testimony, a 94 horsepower engine. We've also talked to companies that have talked about costs considerably higher than that where that different application was involved and so on. We believe that to be the cost -- the installed cost for a typical 94 horsepower engine. We certainly believe the cost would be much higher than that for some of the equipment we have in our mine.

MR. FORD: Okay. So, the cost -- the $36,500 to you for a 100 horsepower permissible equipment for dry system is just installation costs?

MR. TATTON: Oh, no. That's the cost of the hardware.

MR. FORD: Everything. And you said of course for a higher horse power, it's be greater. Do you have any idea of what that would be, or do you have any information at all to help us on that?

MR. TATTON: I do not.

MR. FORD: Again, is there any way to get you to supply some time later a written document to us, of the details of the $36,500 and how you got to that figure?

MR. TATTON: I essentially got that figure based on estimates in our work with the National Mine Association

and also in talking with Mr. Paas and getting quotes on that price. That's essentially where we got the price.

MR. FORD: Is that the same answer for the $10 per hour, because NMA has the same quote.

MR. TATTON: Yes, it is.

MR. FORD: Okay. Is there any way we can get detail on the statement that you made that it would cost $2 million for your mines just to retrofit?

MR. TATTON: That's simply a calculation based on a number of equipment we have in that cost. $36,500 for permissible and $25,000 for an after treatment application.

MR. FORD: Okay. How about the $2 million for the filter replacement and labor? Can we get the detail on that?

MR. TATTON: The detail again on that is just considering the number of pieces of equipment we have times 3,500 hours that we use in equipment each year and considering $10 per hour for a filter.

MR. FORD: So, it's just the hours times the $10 per hour?

MR. TATTON: Yes.

MR. FORD: Okay. So, the 3,500 hours is on a piece of equipment?

MR. TATTON: Yes.

MR. FORD: Okay. So, you would take the hours

times the $10 times the number of pieces of equipment, and that would give you your $2 million plus for filter replacement and labor?

MR. TATTON: Yes.

MR. FORD: And finally, I have one last question. You haven't mentioned any research or developmental costs. Do you have any experience with what those costs to date?

MR. TATTON: You know, I will be glad to supply at least our best estimate of those costs in our final comment. I don't have those costs here today.

MR. FORD: Is that comment you're talking about would be a written comment?

MR. TATTON: Yes, sir.

MR. FORD: If you could do that, it'd be helpful.

MR. TATTON: We will do that.

MR. FORD: Okay. Thank you.

MR. TOMB: Okay. George?

MR. SASEEN: You just mentioned a statement that your high altitude has effect on the filtration systems?

MR. TATTON: Yes.

MR. SASEEN: Do you have any data that you can share with us to support that?

MR. TATTON: I don't have any particular data. I just have -- that's based on our experience. We have in the past tried catalytic converters. And you know, our engines

are typically a 150 horsepower engine. And our elevation would derate it to about 100 horsepower. And that causes some problems with the use of that type of filtration.

MR. SASEEN: But that was done with catalytic converters or with paper filters?

MR. TATTON: We have never used any paper filters in our operation.

MR. SASEEN: How about ceramic?

MR. TATTON: Did some real basic testing. Also, it was problematic.

And I would like to mention at this point, we have the machine. It's going to be delivered to our property very soon. It's a Getman road grater. It'll have a ceramic trap on it. We're hopeful that that -- the duty cycle on that machine will be such that we can get some regeneration of that trap. And that will right in our property and we'll be doing an evaluation on that also in the near future.

MR. SASEEN: Would you be able to share any of that data with us within the comment period?

MR. TATTON: I really question if we'll be able to produce that data by February 15. But the machine's not on our property yet.

MR. TOMB: I have another question by Mr. Thaxton.

MR. THAXTON: You brought up in your presentation that you would prefer that the Agency would allow you to

make use of all the tools that have been brought forth in the publications, "Our Toolbox" as it's referred to.

If you were allowed to go that route of using any of the tools, any or all of them, would you be able to submit to us in your comments that followed, what level of reduction you would expect then to achieve in relation to reduction of these particular from the use of any or all controls that are available to you in your toolboxes? And also then, if you can follow along with that, would you also be able to address which tools you consider from your standpoint with your operations which ones you would consider feasible for your operation?

MR. TATTON: I think I can provide some comments and we'll talk about which ones would be feasible. The other question that you alluded to essentially is asking, can we -- you know, do we know that standard should be, or what that particular system would be capable of accomplishing? I don't know that we'll be able to do that by the end of the comment period.

MR. THAXTON: What I'm looking at is basically if you're combining two or three things that are in the toolbox, would you expect to see a 70, 80, 90 percent reduction in these particular matters that you're generating from your particular pieces of equipment through the application of multiple controls?

MR. TATTON: I don't think I could really answer that question, Mr. Thaxton, unless that test was done in a lab taking into consideration all those controls in parallel and what that reduction would be.

MR. THAXTON: Okay.

MR. TOMB: Okay. I have a question from Kevin. I'd like clarification on your comment relative to the information. I'm not sure I understood what you said about putting the information into the ventilation control plan.

MR. TUTTLE: Well, I deal with the ventilation control plan.

MR. TOMB: Okay.

MR. TUTTLE: And every time I have to submit a submittal to MSHA, the union has 10 days to comment. Then we ship it off. It takes three or four, five months sometimes. On this,
probably -- maybe not that long. Then, you get it back. By that time, we may have another change on that. So, it's a continual round of process between us and MSHA trying to deal with the ventilation --

MR. TOMB: So, you're saying this will -- having this information will compound that process?

MR. TUTTLE: Yes. It's going to be just another loop there. It's going to cause paperwork for you. It's going to cause paperwork for me. There's other ways to deal

with this. Put it in the regulation. If you want the information, say that we'll supply you the information or we'll post it or we'll make it available to you. Why put it in the process that you have to have it approved every time you go through this? Every time I want to change something, I got to --

MR. TOMB: I understand.

MR. TUTTLE: It just really, really balls up the work. There's different ways to address it in the regulation, is all I'm saying.

MR. TOMB: Okay. I didn't understand. I have a different question from Sandra.

MS. WESDOCK: I was just curious. Has Energy West used MSHA's estimator, the computer spec sheet? Any idea if it's going to be used?

MR. TATTON: I'm not sure I understand. You mean, as far as the economic costs?

MS. WESDOCK: With the technology that is available or how much that DPM emissions be used to reduce? Because you were saying that in your testimony that you didn't think it was feasible, you know, within the 18 months to put the filters and all the stuff. You were talking about how that really isn't feasible and how -- I was just wondering if Energy West had done any type of use of that estimator as far as the controls.

MR. TATTON: We did not use the estimator. If I can allude back to our experience in the installation of a dry particulate scrubbed on the three and a half diesel Wagner. We do know how long that took. We know how much additional fabrication work was necessary to do that. And based on that, we think that it's going to take an awful lot of time to retrofit the number of pieces of equipment, not only in Energy West, but throughout this country. There's a tremendous amount of work involved with the installation of one of these systems.

MS. WESDOCK: And another thing, could you give us copies of your testimony?

MR. TATTON: Sure.

MS. WESDOCK: Thank you.

MR. FORD: I have one follow-up question. You talked about earlier the 3,500 hours per machine. That encompasses both permissible and non-permissible. Right?

MR. TATTON: Yes.

MR. FORD: That's an average figure. Do you know on average what would be the hour per machine for non-permissible?

MR. TATTON: It's around that for both. We use --

MR. FORD: The same.

MR. TATTON: The permissible machines, if anything, would probably be higher, but I don't know that

there's a lot of distinction. They would be close to the same amount of hours.

MR. FORD: Okay. Thank you.

MR. TOMB: Bob?

MR. HANEY: A previous person testified that they rebuild machines about every 4,000 hours. Do you have any idea what the operation time is on your machines prior to rebuilding?

MR. TATTON: Yes, I do, because when that question came up I asked the gentleman next to me that knows that very well. Typically, we will completely rebuild a machine every four or five years. Now, if it's necessary and we have engine failures or engine deterioration, that may happen. Engines may be replaced in the interim. Does that answer the question?

MR. HANEY: So, you're more in the neighborhood of 15,000 hours?

MR. TATTON: Yeah.

MR. TOMB: I just have one last comment. I'm not sure whether this gets at what Sandra was asking. But Sandra said and what Bob asked for in getting down to a level with different applications of different technology, maybe the estimator would be a good place to start to estimate that. In other words, if you have the technology that you know that have some efficiencies -- multiple

technologies, getting a different efficiencies, if you plugged them into the estimator knowing the approximate outputs of your equipment in grams per horsepower hour than maybe you could estimate what those lower levels would be.

Okay. Any other questions? I thank you for your comments. They were all very good. They'll certainly be considered. Thank you.

What I have in front of me is we have three presentations left. And they look like they're probably going to be less than an hour, so what I think we'll do, we won't stop for lunch. We'll just go ahead and proceed with those.

The next one that I would like to have presented would be from Mr. Heiser?

MR. HEISER: Heiser.

MR. TOMB: Heiser. I'm sorry. I know it's getting close to lunch time. And I hope you can do it on an empty stomach.

MR. HEISER: I'd rather do it now than afterwards.

MR. TOMB: Okay. Thank you.

MR. HEISER: First of all, good morning, ladies and gentlemen. Afternoon now.

First of all, let me introduce myself. My name is Rowdy Heiser. I'm a line safety engineer with FMC Corporation in Green River, Wyoming. And I'm pleased to

testify today on behalf of the MARG Diesel Coalition concerning MSHA's Proposed Rule governing diesel particulate exposure in underground coal mines, 63 Fed. Reg. 17492 (April 9, 1998.)

MARG is a coalition comprised of underground non-metal mine operators and other entities who are interested in the regulation of diesel particulate and the potential health effects of diesel exhaust in humans. Many of MARG's members operate mines that are the subject of an ongoing collaborative study by the National Institute for Occupational Safety and Health ("NIOSH") and the National Cancer Institute ("NCI") that is designed to measure diesel exhaust exposure in underground non-metal miners and to evaluate the past and current health effects of this cohort of workers.

MARG and its individual member companies plan to comment in detail concerning MSHA's newly proposed regulation governing diesel particulate matter in underground metal/non-metal mines, 63 Fed. Reg 58104 (October 29, 1998), and we reserve the right to submit additional written material concerning the coal sector proposal. Today's testimony focuses on MSHA's failure to provide a sound scientific basis for the proposed rules.

As MSHA is well aware, earlier this year, NIOSH and NCI finally began data collection for its six-year

multi-faceted study of diesel exhaust exposure in non-metal miners, which is intended to determine whether such exposure causes illnesses. The goal of the multi-million dollar project are one, to evaluate mortality with regard to diesel exhaust exposure; two, to determine whether mortality increases to the level of diesel exposure; and three, to evaluate the association between measured levels of diesel exhaust and components in the air, metabolite in the urine, and DNA adducts in bronchial and blood cells. All suspected disease endpoints are being studied, including lung cancer.

The study includes the following components:

Retrospective cohort mortality study: The cohort for this phase is comprised of approximately 8,200 non-metal miners from 10 underground mines who were employed for at least one year during the period from the date of dieselization until December 31, 1996. Vital status will be determined, and cause of death will be obtained from death certificates.

Nested case-control study: This study will be based on deaths ascertained during the follow-up stage of the cohort mortality study. Four controls will be selected for each case from among members of the cohort, and information on confounding factors will be gained from interviews.

Biomarker study: This study is designed to

examine whether exposed workers have detectable levels of nitro-PAH metabolites in their urine and nitro-PAH DNA adducts in a spectrum of tissues, and to relate those levels to airborne exposures.

MESA enforcement, together with information on diesel usage and other surrogate measures, will be utilized to construct estimates of personal exposure for the cohort mortality and nested case-control studies. Such measurements include: elemental carbon, submicrometer combustible dust, submiscrometer particulate, organic fraction of the exhaust, NO, NO_2, CO, CO_2, nitropolycyclic aromatic hydrocarbons (nitro-PAHs) and respirable and total particulate.

These measures are being collected because NIOSH and NCI recognize that there is no definitive substance which serve as a surrogate for diesel particulate matter exposure and the researcher’s hope to determine which substance best correlates with identifiable diesel exhaust exposure. Also, sampling techniques and equipment used to gather exposure data in the past and present are still experimental, thus resulting in inconclusive data used to justify regulations.

NIOSH/NCI’s protocol for this study clearly identifies the problem with MSHA’s assumption concerning health effects. In short, "although diesel exhaust has been

classified as a probable carcinogen by IARC and as a possible carcinogen by NIOSH, the risk of lung cancer is humans is still not well defined." NIOSH admits the same conclusions for all of the suspected disease endpoints.

The Government researchers observed that in view of the inconclusive findings in animals, there is a clear need for more information on the effect of diesel exhaust exposure in humans." The protocol concluded that the "existing studies have many weaknesses," including use of crude indicators for diesel exhaust exposure, no historical quantitative measurements of diesel exhaust, short latent period, low exposure levels and small numbers of observations.

In the Advance Notice of Proposed Rulemaking, 57 Fed. Reg. 500, January 6, 1992, that preceded the current proposal MSHA quoted the Diesel Advisory Committee’s finding that more research was needed because of the absence of adequate information regarding the permissible exposure limits at which health effects accrue. Prior to initiating the rulemaking, MSHA has asked NIOSH to perform a risk assessment for exposure to diesel particulate and between 1988 and 1991, either studies and/or papers were developed by NIOSH, Bureau of Mines, and MSHA researchers addressing the health effects and/or sampling and measurement techniques for diesel particulate.

As recently as last year, NIOSH and NCI thoroughly reviewed the existing scientific literature before making these findings and concluded that the human health effects of diesel were not known. Therefore, admittedly flawed scientific studies are the source of MSHA's "strong evidence" of an increased risk of lung cancer, 63 Fed. Reg. 17540, and serve as the scientific basis for the proposed, draconian diesel exhaust rule.

MSHA has selectively presented studies supporting its conclusion while ignoring other research that refutes its findings. The Agency also has disregarded the recent conclusion of Dr. Debra Silverman, lead researcher on the NIOSH/NCI diesel study: "The repeated finding of small effects, coupled with the absence of quantitative data on historical exposure, precludes a causal interpretation."

The mining operations involved in he NIOSH/NCI study are participating cooperatively with Governmental researchers because we share their desire to obtain definitive information as to whether or not diesel exhaust exposure presents health hazards to underground miners. Our participation has resulted in extensive disruption to our mine sites and has cost the industry millions on dollars in non-reimbursed expenses for such items as: review and copying of hundreds of thousands of non-statutorily required personnel, medial and business documents; sampling and

exposure monitoring; accompanying the researchers for their personal safety; and review of the comments concerning NIOSH/NCI's many revisions to the protocol.

The "best available evidence, "as determined by NIOSH, the agency charged with scientific research under the Mine Act, indicates that significant health risks have not been demonstrated to warrant MSHA's strict regulation of diesel equipment use and exhaust exposure within our industry. If such a significant risk had already been established, there would be no basis for NISOH/NCI to continue its work using millions of taxpayers' dollars.

Similarly, there would be no need for our companies to suffer the disruption and considerable expense associated with the NIOSH/NCI endeavor if the verdict is already in concerning the health effects of diesel. If, however, MSHA agrees with NIOSH that the science is by no means clear that diesel exhaust has any adverse health effects in humans, then the Agency should suspend this rulemaking until such time as NIOSH/NCI complete the work and have had the opportunity to process the results and submit them to independent peer review.

Although MARG acknowledges that MSHA does not have to be 100 percent certain of a health risk before proceeding with regulation, in light of the uncertain scientific basis for the proposed rule and the ongoing industry-specific

research by NIOSH/NCI, we urge the Agency to exercise restraint. Implementation of this proposal would impose highly expensive workplace modifications on mining operations, that might turn out to be entirely wrong or unnecessary based upon NIOSH/NCI's findings, which should be available in five years, with interim reports expected within two years. The basis for MSHA's proposal, therefore, is inherently flawed and the proposal should be suspended until more definitive information is available on this important issue.

Thank you for your consideration of these comments.

MR. TOMB: Jon?

MR. KOGUT: You said that MSHA has ignored research findings. Could you submit to us exactly what you're referring to?

MR. HEISER: We intend to submit in detail the answers to specifically all of those.

MR. KOGUT: And the time to submit that would probably be in non-metal -- metal, non-metal.

MR. HEISER: There is some information on that that will be submitted from other parties. We may also. I'm not sure of the status of that at the moment.

MR. KOGUT: Is this published research?

MR. HEISER: Yes, it is.

MS. WESDOCK: You'll be submitting it for this rulemaking or --

MR. HEISER: There is some information on that for this rulemaking.

MS. WESDOCK: Okay. But you also will be submitting --

MR. HEISER: For the metal/non-metal rulemaking, right.

MR. TOMB: Okay. Ron?

MR. FORD: I just have one question. Concerning the statement that implementation of this proposed rule would impose highly expensive workplace modifications on mining operations.

Do you have any details of costs or work papers that detail what those costs are?

MR. HEISER: Not with me, right now I don't.

MR. FORD: Okay. Could you supply those papers with the detailed information showing those costs to us?

MR. PRITCHARD: Again, the applicability to the coal mine regulations specifically I don't think we have, the non-metal/metal operations. We will provide those in the follow-up for the rules.

MR. FORD: So, here we're talking just about the costs as it concerns for the metal/non-metal.

MR. PRITCHARD: We're concerned with the basis --

total basis of any diesel regulations.

MR. FORD: Right. And these detailed costs you're willing to supply later on when we talk about the metal/non-metal?

MR. PRITCHARD: Right. We intend to look into that in more detail.

MR. FORD: Thank you.

MS. WESDOCK: But the costs that you are talking about in your testimony right now are regarding metal/non-metal alone, or just coal?

MR. PRITCHARD: They apply to both?

MS. WESDOCK: Oh, both. So, you have some information then right now regarding the cost for coal. Correct?

MR. PRITCHARD: No.

MS. WESDOCK: No?

MR. PRITCHARD: We do not represent any coal mines.

MS. WESDOCK: So, your testimony regarding the cost is based on --

MR. HEISER: Our testimony regarding the cost is based simply on referencing our equipment list and registering our equipment and receiving it to the coal mine and
metal/non-metal side. Those are the costs we look at.

MR. TOMB: Tom, some more questions?

MR. FORD: Sure. Again, just to follow up, I'm not sure I understand. You're saying the cost that you have for -- these costs about expensive workplace modification would be applicable to coal, as well as metal and non-metal?

MR. HEISER: Are you on the third page?

MR. FORD: Well, my page has no numbers on it.

MR. HEISER: Let me make sure of the page you are referring to and make sure I can answer the question properly.

"Similarly, there would be no need for our companies to suffer the disruption and considerable expense associated with the NIOSH/NCI endeavor if the verdict is already in concerning the health effects of diesel."

Is that what you're referring to?

MR. FORD: No.

MR. HEISER: No. Okay.

MR. FORD: Next to the last page. It's the last paragraph, and it's the sentence that starts in the last paragraph, "Implementation of this proposal would impose highly expensive workplace modifications on mining operations that might turn out to be entirely wrong or unnecessary based upon NIOSH/NCI's findings, which should be available in five years, within interim reports expected within two years."

My question originally was, do you have any documentation that shows what these expensive workplace modifications would be? And I thought that you answered they'd be similar to coal and metal/non-metal.

MR. HEISER: To answer that question, do I have any documentation? The answer is no, not at this time. What we're referring to as expensive workplace modification would be the thing that we would have to do to our diesel equipment similar to coal to produce 95 percent efficiency. Those -- there would be some expenses associated with that, similar to some of the testimony from this morning.

MR. FORD: Oh, I see. I see. So, you're saying that some of the testimony that's applied today on cost, would be similar to your situation, but you don't have any actual data for the metal/non-metal?

MR. HEISER: No.

MR. FORD: Okay. Thank you.

MR. TOMB: I have a couple questions. I guess it's on the third from the last page. Okay? Last paragraph where you state: "The "best available evidence," as determined by NIOSH indicates that no significant health risks have been demonstrated to warrant MSHA's strict regulation of diesel equipment."

And I don't know what the reference is for that, but I thought NIOSH has listed this as a probable human

carcinogen, and they have that out in their published bullet 50. So, I'm just wondering what the basis for that is.

MR. PRITCHARD: Well, the basis is that they have not established any levels -- action levels or -- well again, analysis of the publications that led into that conclusion which leads us to disagree with them and you on your conclusion.

MR. TOMB: That there is no significant health risk from exposure to diesel particulate? Is that what you're saying?

MR. PRITCHARD: It has not been effectively shown at this time..

MR. TOMB: Okay. And I guess the next thing that you have here that you might want to address is that, although it's not in our proposed rule for coal mine exposures, but for metal/non-metal exposures which is in the document that I think to come out on October 29, was that the California Environmental Agency as identified diesel particulate as a toxic air contaminant. And this conclusion was unanimously adopted by the California Air Resources Board and signed at the review panel.

And so, I think, maybe you want to address that also.

MR. HEISER: Sure.

MR. TOMB: Okay. Because what I interpret you

saying here is that there's not a scientific body of evidence that demonstrates this is a hazard. And I'm not sure the Committee would agree with you on that.

MR. HEISER: Well, that's fine but we have the NIOSH/NCI study going on right now.

MR. TOMB: Well, I don't think the NIOSH/NCI study is the overall -- going to be the overall concluding thing on whether there's a problem or not. I think it would just be another study along with other epidemiological evidence to support --

MR. PRITCHARD: But it is on the subjects you are attempting to regulate, which is probably the best cohort that we can have. And it's ongoing at this moment and it's a pretty intensive study.

We believe that any action by the agency at this is premature based on that study going on.

MR. TOMB: Okay. Well, you might want to address the California Resources.

MR. HEISER: Do you have a question?

MR. TOMB: No.

MR. HEISER: Thank you.

MR. TOMB: Thank you very much for your comments.

Our next presentation will be by Michael Block, if he's still here. Black. Block.

MR. BLOCK: That's right. Block.

MR. TOMB: Block. Okay. From the Engine Manufacturers Association.

MR. BLOCK: Good afternoon. I'm Michael Block. B-L-O-C-K from the Engine Manufacturers Association. With me is Joe Unseth from Deutz Corporation.

I'm here to speak today on behalf of the Engine Manufacturers Association. EMA members include the major manufacturers of engines used to power the equipment used in the underground coal mine that are covered under the proposed MSHA rulemaking being considered here today.

Well, Engine Manufacturers is not directly regulated under the MSHA proposed rule. That rule would impose significant requirements on engines and mining equipment, and would directly impact Engine Manufacturers' customers. Those customers will be looking to EMA members, in particular, Caterpillar, Detroit Diesel Corporation, Deutz Cabod and Isuzu for assistance in meeting the proposed requirements. As such, EMA is eager to insure that any requirements adopted by MSHA are technologically feasible and cost effective in reducing particular concentration.

On October 8, 1998, EMA submitted written comments in response to the MSHA proposed rule. In those comments, EMA raised a number of questions with the health effects information which MSHA cited and used to justify and support

their proposal.

While EMA believes there are many uncertainties regarding health effects of diesel particulate, we are sensitive to these concerns and support efforts in improving the environmental conditions in underground coal mines and support requirements that will reduce diesel particulate concentration.

Unfortunately, the requirements under the MSHA proposal limits the options available to mine operators and provides no assurance that concentrations of diesel particulate will be reduced to quantifiable levels. MSHA's proposed rule specifies the design standard rather than a performance standard as a means to control diesel particulate exposure. The proposal would require the installation and use of filtration systems with a particulate removable efficiency of at least 95 percent.

This approach is flawed not only because it limits potential solutions to the reduction of diesel particulate to a single technology, but also because that single technology is an unproven one. Laboratory tests conducted by West Virginia University on a number of after treatment systems showed filtration efficiencies range between approximately 40 and 80 percent, a far cry from the 95 percent specified under the MSHA proposal.

Over approximately the past 20 years, the diesel

engine industry has made significant achievements in reducing both NAAQS and particular emissions. As reflected in exceptionally stringent new emission standards for engines used both in on highway and non-road applications, diesel engine manufacturers have been successful in reducing NAAQS emissions by over 70 percent, and particulate emissions by over 90 percent of unregulated laws.

The engine proposal fails to recognize that this achievement and the future achievements in emission reduction that are anticipated, can form the basis for a technologically feasible and cost effective regulation based on a reasonable emissions performance-based requirement.

In contrast to a design-based approach, interest should MSHA should adopt performance-based approach, which would provide flexibility for mine operators to choose the most effective combination of engine technology, after treatment technology, improved fuels and mine ventilation available, yet insure measurable levels of particulate reduction. Such an approach, which is detailed in our written comments would require tailpipe particulate emissions to be considered in determining ventilation requirements.

Specifically, EMA recommends that the mine ventilation be determined by the ventilation rate for agent emissions or some factor times the particulate index,

whichever is greater. This approach will build upon MSHA's existing laboratory-based approval process and will give mine operators flexibility in achieving air quality goals through a cost effective proven combination of low emitting engines, current and future after treatment technology, improved fuels and/or mine ventilation.

Rather than promoting a single, unproven after-treatment technology, EMA's approach would encourage use of existing technologies and stimulate further development of new engine after treatment fuels and ventilation technologies. Those increased flexibilities would allow engine manufacturers, after treatment suppliers and mine operators to work towards the most cost effective solutions to reduce diesel particulate concentrations in mine.

MSHA currently limits sulfur content in diesel fuel to .05 percent by weight. In order to insure flexibility in reducing diesel particulate concentrations, MSHA must continue to regulate fuel sulfur content by requiring the use of the lowest sulfur fuel readily available. This is essential for the effective use of after treatment technology.

EMA is committed to reducing engine emissions regardless of where the engine is operated. In underground coal mines in particular, EMA realizes the need for an integrated, flexible, cost effective approach that can

utilize proven technologies to achieve measurable results.

EMA's proposed performance-based approach provides that opportunity without unnecessarily burdening mine operators or relying on unproven technology. EMA and its members will work cooperatively with MSHA and the owners and users of mining equipment to develop an effective regulation to reduce particulate matter in underground coal mines.

Thank you for the opportunity to comment, and I'll try and answer questions you may have.

MR. SASEEN: Michael, are the engine manufacturers prepared to approve some permissible engines?

MR. BLOCK: They're in a form already approved, but not under this regulation.

MR. SASEEN: Better Europe technology.

MR. BLOCK: You want to answer that one or --

MR. UNSETH: As it was mentioned earlier, it comes down --- a lot of it depends on just what the demand is for those engines. Can the engine manufacturers get an adequate return on the investment required to develop those engines and certify.

And you are correct that all the permissible engines currently certified are all old technology. And I'd say that it's worth discussing what can be done to add -- provide incentive to the engine manufacturers for newer technology.

MR. BLOCK: I have a broad perspective answer to that question, also. Using kind of a broad-based approach, maximizes flexibility and doesn't rely on one particular design would ultimately I think be a better shot at trying to get lower emissions. But I think if it's going to happen, I think there's a better opportunity to have it in the context as we're suggesting here than perhaps just the design piece.

MR. SASEEN: Thank you.

MR. TOMB: Paul?

MR. HANEY: So, you're saying that these engines that have had a 90 percent reduction in particulate, they're not the engines that are currently being used in mining?

MR. BLOCK: I think some of them are currently being used because I think a lot of the engines that are being used in mining are certified to EPA requirements.

MR. HANEY: Excuse me, the permissible engines.

MR. BLOCK: I think for permissible, it's probably not the case based on Mr. Jones. I think a lot of the permissible engines are older technology engines. And lot of those engines -- a lot of the newer technology engines have not gone through the certification process as being a permissible engine.

So again, I'm thinking more in terms of -- when I made the statement, it wasn't necessarily those engines are

necessarily used in the mines in a broad-base sense. I think some of them are. Certainly newer technology engines that are out in the field in general, whether they're used in mines or whether they're used in non-mining applications, I've seen dramatic reductions in particulate from unregulated levels.

I think there's an opportunity to use a lot of the latest technology engines as part of a broad-based flexibility approach to solving the problem of diesel particulate concentrations in mines.

MR. HANEY: But what would the incentive to get those for permissibility use?

MR. BLOCK: That's the key. I'm not sure there is an incentive. It's difficult marketing permissible. But another way of I guess answering that question, though, is what is the guarantee that for an older technology engine -- say, permissible engine, which clearly has a higher engine out emissions rating, that the 95 percent filter, if you could find one, would still give you clean exhaust, clean diesel.

If you're starting with a dirty package, it's extremely difficult to say that you're going to reduce concentrations to an acceptable level. Ninety-five percent of dirty would still be dirty. And that I think that is where the concern we have in the MSHA proposal lies. What

we're suggesting is part of a broad-based approach. Try and start with a clean product. And I realize that there are certain economic problems, perhaps, on the permissible side of things.

MR. HANEY: On the permissible side, though, it seems like that there's no incentive to use a clean engine then we still have -- if we're still using a dirty engine even with less, possibly clean-up, if we go to less efficient filters.

MR. BLOCK: But if you go to some kind of a performance-based standard, whatever that might be that has to be met that would require non-permissible or permissible, then at least you have a suite of options you can choose from. I don't think the option is to just say stay where you are. But you have more of a suite of options which would apply permissible, albeit more difficult, but it would still apply to permissible and non-permissible. And that's what we're suggesting?

MR. HANEY: My understanding is that the current engines are in the neighborhood of .03 grams per horsepower hour emissions for the indirect injection. How much cleaner can you get using the new technology?

MR. BLOCK: That's a difficult question to ask for a number of reasons, most logically being of course, that there are different engine technologies out, and there are

different -- when you give a number, whether it's .3 or whatever it is. If you look, for example, at the latest EPA regulations coming out, those regulations -- those requirements are extremely power specific. So, the challenge of getting perhaps naturally aspirated, a smaller engine can meet -- is more of a challenge than the turbo-charged ones. If you give it absolute numbers, it's extremely difficult.

To apply a number to future technologies is again, also, very much up to the manufacturer and somewhat, I guess, proprietary. But I think there are -- there are marginal compound reduction stipulated in EPA regulations. The numbers have to come down. But those numbers have to be within those guidelines, and I think they'll be dramatic. But to assign where you go from now to there, is very difficult.

Other than I think they're significant, and then I think the MSHA is part of the proposal should account for that and take that into consideration as part of the suite of options.

MR. UNSETH: There is extremely wide variety of engine technology certified for MSHA and for EPA. And for EPA that particulate -- eight mode particulate data is all public -- published information. And if you -- if you looked at the public EPA certification data, you'd see

particulate -- eight mode particulate ranging from probably .08 to .3. It's all over depending on the engine technology.

MR. BLOCK: If I could maybe add one more thing, and that is kind of picking up on my last comment about EMA would like to work with MSHA and the mine operators and so on. I think a way to answer your question might be that there are a number of technologies out there, both now and projected, not just engine out, but after treatment and so on that I think could be utilized as a means of reducing thicker concentration. And we would be able to work with you and perhaps provide some information as part of this process to maybe give you a better sense of where the numbers might be, both now and for future technology.

And I think the key is the cooperative effort in trying to develop -- trying to get some information to you all, but I think it would give you a better sense of what some realistic numbers are.

MR. HANEY: Are you going to submit of those with your comments?

MR. BLOCK: We'll probably submit -- we're still kind of formulating what our post-hearing comments -- we can certainly provide I think, at least some information. I've got to go back and talk to my members, but I think some information. Give some direction where we think some of the

opportunities are. We've done that in some other rulemakings already, just in terms of projections, where we think after treatment technologies and engine emission -- engine out emission technologies are going. We can try and provide those as part of our post-hearing comments.

MR. KOGUT: Would you be able to provide information on the size distributions of these particles that are emitted by the new engines? In addition to comparing the concentrations by mass, could you also draw comparisons by surface area or by particle counts?

MR. BLOCK: Probably couldn't necessarily come up with a definitive answer to that or a definitive number, I should say. And the reason for that is the main -- it sounds like you're speaking from reading some of the material that an awful lot of work is going on. We're doing a lot of work in cooperating with EPA in trying to get a better understanding of particle characterization and size. And this kind of whole area -- and I -- we can certainly direct you to where that is and to where that comes out in terms of coming up with a definitive number. I don't think anyone here can answer those questions yet.

MR. KOGUT: I wasn't really asking for a definitive number, but rather just some guidance or information on what studies you have that might not be available to us or that aren't in the current published

literature.

MR. BLOCK: I don't know if there's anything else. Well, the answer to the question is yes. I can certainly -- I'd be willing -- be happy to go back and look and see. In fact, on our Web site, we've got kind of a connection to as many of the various activities that are going on with particle research. And there's also an EPA Web site, which also has kind of links. And we're actually working cooperatively with EPA on an international scale to develop a link series of Web sites where at least you can get on and find out what people in the world are doing as far as particle research.

And to my knowledge, almost all the research is being done, whether it's completed or not completed, at least it's being announced, if you will. I can certainly direct you all to that. I'd be happy to do that.

MR. KOGUT: Are engine manufacturers doing that research that you know of, or is this other laboratories that are doing it separately?

MR. BLOCK: I don't know. I suspect, but don't know for sure if other engine manufacturers are doing it. A lot of that may be proprietary or within their own kind of product finding.

I know that there's work being done by the Environmental Protection Agency which we're working with on

a cooperative program out of their laboratory in Ann Arbor. And there's quite a bit of work that's being done through independent laboratories with the cooperation of manufacturers in Europe. There's an awful lot of work being done in England on this and issues being done through the UK. And this information is being cooperatively shared.

Do you want to add to that?

MR. UNSETH: I'd just say it's a topic that's really in its infancy. And I think it'll be several years before it's -- there's a lot of good data.

MR. TOMB: Yeah. We're talking about nano particles.

MR. BLOCK: But I'd be happy to talk to you afterwards and give you some information on at least where to start looking.

MR. SASEEN: Michael, you mentioned about sulfur levels. From the EPA point, do you have any indications -- are they preparing to lower the national down? I mean, is that in the works?

MR. BLOCK: Yeah, we're pretty -- I can give you a very, very brief background. We actually had a meeting with EPA officials back in I think it was October, September/October, to formally ask them to initiate rulemaking to lower fuel sulfur content. We've talked enough and have the cooperative work the manufacturers of

after market -- of add-on after treatment devices, especially catalysts. And every indication is that a lot of the stuff will be just a whole lot more efficient and successful with low fuel sulfur.

So, we've asked the EPA. And EPA has responded positively in trying to initiate -- to form a rulemaking to try and reduce sulfur levels. They've done quite a bit of work in the gasoline side already.

ARB, Air Resources Board, supports us on this. And they kind of feel the need to do it cooperatively with EPA, which kind of makes sense. So, it would be nice to try and get a national low fuel sulfur. We haven't done that. We've already started that initiative, and so far the response has been reasonably positive. It's not something you can do overnight obviously. But directionally, it is what we want to do. It's the direction in Europe right now.

MR. KOGUT: Do you guys have a level in mind?

MR. BLOCK: I mean, initially 30 BPM is a level that wer seek in informal discussions with a lot of the aftermarket manufacturers would be after treatment. Excuse me. Not after market. After treatment manufactures. Seems to be a level to try and get some realistic numbers.

I suppose the smart answer is to say the lower the better, but I realize that there's a threshold for that. The numbers that we've put in some of our public comments on

other rulemakings for the EPA has been 30 BPM.

MR. TOMB: Ron has a question.

MR. FORD: Yes, Mr. Block, comments were made today concerning equipment manufacturer certification costs. Can I please ask in your post-hearing comments, can you comment on where you believe that these costs are correct, and where you believe they are different in your estimation? And if they're different, can you state in your comments what you think they would be?

MR. BLOCK: We can go back and review cost assessments that were given. I certainly think that we can try to put together some engine certifications projected costs. I might speak for my members and say that we could project that beyond that because it is not my personal expertise, but certainly from an engine perspective, we can comment on that. Sure.

MR. FORD: Okay. Thank you.

MR. SASEEN: Just for clarification, right now the national sulfur is 500 parts per million or .05. And we're going to 30, which would be .003. Right?

MR. BLOCK: That's right. Well, the high is 500. But in reality that varies with the fuel batch. But yeah, we're talking about significant reductions. Absolutely.

A lot of this is longer term, but a lot of this is still needed in order to get some of the after treatment

devices to work. We're not suggesting 30 BPM tomorrow. But we're suggesting that it's part of EPA's long range direction, but it's part of the rulemaking process. As they start requiring stricter and stricter emission requirements whether it's among ins or any kind of diesel equipment, there needs to be a corresponding review of the fuel sulfur, otherwise the levels that they're asking diesel engine manufacturers to adhere to, just won't be realistic.

MR. TOMB: What kind of cost increase per gallon --

MR. BLOCK: That's subject to debate. And obviously, I think it's probably a question of fuel manufacturers need to grapple with the actual refineries. And we started talking --

MR. TOMB: You have no idea on that at all?

MR. BLOCK: I don't have a figure. I've heard a lot of different figures, and I think there needs to be a careful review of those numbers. I don't have the numbers.

MR. SASEEN: Mike, would this be just on highway, or are we talking non-road fuel, also?

MR. BLOCK: The initial impetus is on highway, but I think what we're talking about is really coming up with a fuel that is for non-highway as well. And the reason for that, of course, is that as you're all well aware, EPA has already promulgated and will continue to promulgate stricter

and stricter non-road requirements that ultimately at some point, whether it's near term or not so near term. The timeframe is getting is getting depressed and it's going to happen quick. And therefore, in addition the lower fuel sulfur content is happening.

MR. TOMB: We have, I think, another question. Jon?

MR. KOGUT: Prior to their final conclusion identifying diesel particulate as a toxic air contaminant, the California Environmental Protection Agency initially proposed to identify a diesel exhaust as a toxic air contaminant. And I believe that elicited a considerable amount of opposition from the Equipment Manufacturers Association.

My impression is -- my understanding is that after considerable amount of discussion in which the EMA was involved, it was after this discussion that the proposed identification of diesel exhaust was changed to identification of diesel particulate. What I'm not clear about is to what extent that that final conclusion had the endorsement of the EMA. So, could you clarify that?

MR. BLOCK: To the extent that I was involved, and it wasn't all that much on that particular issue -- I mean, on that particular rulemaking, if you want to call it. It wasn't a rulemaking but and initiative by OEHA.

MR. KOGUT: By who?

MR. BLOCK: By --

MR. KOGUT: The Office of Environmental Hazard Assessment.

MR. BLOCK: OEHA is the acronym, but it's a part of ARB. I think our notion was that diesel exhaust is a very complex mixture. And to try and characterize all the diesel exhaust I think you lose sight of what the whole purpose behind the program was or behind the whole initiative, at least in our mind, which is to try and isolate that part of diesel exhaust which we feel may be toxic.

Not so much to identify it and walk away from it and to go on to something else, but to identify something so that engine manufacturers can start applying focused research. And it was felt very strongly by our members that focused research should be now with all people involved because with limited evidence that people hold -- but rather focus on PM as a means for engine manufacturers to be able to focus in reducing PM. And that was a very broad brush way. Our motivation for trying to get that process so that ARB lists diesel PM as toxic air contaminant as opposed to --

MR. KOGUT: Does the EMA endorse that conclusion as it apply to PM?

MR. BLOCK: EMA -- well, EMA endorses the process of work to try and reduce PM levels. I'll leave it at that. I think there's still -- EMA is still questioning and wanting to see more work done on links. We said that in a lot of our testimony, the links between PM and what it would cost. Having said that, we as engine manufacturers don't want to walk away from trying to reduce PM.

MR. TOMB: Any other questions? Thank you very much.

MR. BLOCK: Thank you.

MR. TOMB: For your input.

All right. Next and I think our last presenter is Mr. Jensen. And I'm not sure what NUMA is.

MR. JENSEN: That stands for Non-Union Miners of America.

MR. TOMB: Okay.

MR. JENSEN: My name is Gary Jensen. J-E-N-S-E-N. I've been a coal miner for 25 years.

Unlike many of those that have talked ahead of me, I have had experience in diesel coal haulage base equipment. The mine which I work, Supco Mine, utilizes diesel coal haulage at the face. And unlike many, I have not experienced the headaches, the watering of the eyes, the cold-like symptoms and walking around in this cloud of smoke. Maybe it's because of the maintenance programs.

Maybe it’s because of complying with ventilation.

My feeling is that MSHA should terminate this proposal -- rule in the proposal stage. A colleague that’s a non-metal mining association, made a statement at one time. He says, "If you torture the data long enough, you can get it to say what you want." And I think that is what is happening with the diesel particulate standard.

We are basing this on what has happened with rat studies. And I think it is what we have done to these rats is tortured them. We’ve put them in and we have taken and exposed them to a diesel exhaust emissions, diesel particulate matter. According to the Health Effect Institute in its technical report, it states that the concentrations that these rats have been exposed to have been approximately three orders of magnitude higher than current estimates of the average atmospheric conditions. The report also states that prolonged exposure to diesel emissions does not produce lung tumors in hamsters and in mice.

We suggest -- it goes and says, "We suggest that the species specific factor plays a critical role in the indication of lung tumors by diesel emissions. And I believe in that -- in the study that is referred to, the hamsters and mice was thrown out because they did not show the tumors that these have.

I have been a participant in the NIOSH study that NIOSH conducted back in the early ’80s in regard to the chest x-rays and all that. And I still participate in the volunteer chest x-ray program. And after 25 years, I have not shown any effects.

I’d like to make reference to the 1977 Rochette Report, where it makes reference to a study made by the UMWA concerning underground diesel usage in their geographic districts. And this revealed that the Denver district, which encompasses the states of Washington, Montana, Wyoming, Utah, Colorado, New Mexico and Alaska, and which counts for 95 percent of all dieselized coal mines in the U.S. had the lowest relative risk rate of death from all causes, all cancers and all cardiovascular diseases.

The railroad study that was mentioned earlier, I think if you go back and you look at that railroad study, many -- a lot of the results of that was done from death reports and questionnaires that was given out to the families on deceased people.

But I feel that before proposing a rule on diesel particulate matter, there needs to be evidence that there is a health hazard. And if there is a health hazard to diesel particulate matter, I feel that the U.S. Government should make this mandatory on -- for everybody. They should protect all of that are at that table, as well as me, the

miner. You, your larger cities are probably exposed to higher concentrations than what we are underground.

Much of the equipment that we use meets EPA requirements. I don't see a need for additional -- all this additional stuff. And as I said before, we use ventilation maintenance programs to keep the equipment in compliance, and we take care of these on each one of our sections as required by law.

Under the new diesel regulations, we're required to take NO and CO readings in the sections in the last open crosscuts and at our feeder breakers. And if we exceed a 25 percent -- excuse me, 50 percent of the TLV for CO or NO, we need to make changes. And even with our outlying equipment operating, yes, all of that goes downwind, but we still do not exceed the action level in our working sections.

I don't know how you -- it was stated that this diesel equipment as it's operating going down these hallage ways
stirs up all kinds of dust. I would like to see what battery-powered equipment, how it controls this dust along these same hallage ways.

I think that any piece of equipment that is upgrading the hallage way will stir up dust. That's why we have ventilation plants. Ventilation plants has to take into consideration all of the equipment that you use in the

mine.

I'd like to comment on the training proposal. If I was a mine that did not operate diesel equipment, I'd be very concerned about this rule. Because the way that it says, it says under 72510 Miner Health Training, it says, "All miners at mines covered by this subpart, who can reasonably be expected to be exposed to diesel emissions on that property shall be trained annually." And then it goes on from this.

Okay. In that rule, miners -- okay. The definition of miners. Many of the people that come on the mine site, let's say, for instance, I think that this could be construed to mean that I don't have any diesel on the property, yet the cull is hauled off by semi-trucks. That diesel is coming on to the mine property. That is expose -- in looking at this, that is exposing these people to this diesel exhaust. They are on the mine property.

I don't think that is a very good or very reasonable proposal. And I think that that should also be terminated in this proposal rule -- in this proposed rule -- in the proposal stage.

In closing, I think that there are laws already in place for the safe operation of diesel equipment in underground mines. Some of these are 75321, air quality. That's a requirement that we have to maintain the air

quality in our mines. Okay? It doesn't discriminate against diesel equipment. It says no matter where this source is coming from, you will do this.

And then also, under part 701900 on the action level, if you exceed the action level for CO and NO, then you will take action.

Another comment. Before -- it's my feeling that before MSHA proposes a rule, that they should be confident in making this rule. And in the proposed rule, in the preamble, it asks for comments. Said the proposed rule part 4 of this preamble reviews each provision of the propose rule. Part 5 discusses the economic and technical feasibility of the proposed rule. And Part 6 reviews the projected impacts of the proposed rule. And the Agency would welcome comments on each of these topics.

Even in Part 4 of that proposed rule in the preamble, the Agency makes the comments -- it says, "First, the Agency is not confident that there is a measurement method for DPM that would provide accurate, consistent and verifiable results at lower concentration levels in underground mines." If that's the case -- if MSHA's not confident in proposing the MSHA rules, then why are we proposing the rule?

I thank you for your time, and I thank you for this opportunity to make these comments. And will follow up

with comments before the February 16 deadline.

MR. TOMB: Thank you, Mr. Jensen. Any questions? Jon?

MR. KOGUT: To address your last question first, I think it's important to distinguish between the rule that we proposed here. And one of the possibilities that we considered -- one of the alternatives that we considered which is a performance-based standard that would involve setting a limit on the concentration of diesel particulate in underground coal mines.

And this statement that you just alluded to about a lack of confidence in measurement techniques in underground coal mines was what led to the Agency, really, to reject that particular alternative for the time being, although we're still considering it in the light of any additional information we might receive.

But that's why we didn't propose at this time establishing an exposure limit. It was because of the difficulties that we saw in measuring diesel particulate in underground coal mines.

I have also a question for you. You referred to an HEI report in which there was a comparison drawn between the concentrations to which rats were exposed in various studies and atmospheric conditions in the atmosphere. Is the report that you're referring to the 1995 report that was

edited by Nels?

MR. JENSEN: Dr. Kathryn Nels.

MR. KOGUT: Yes. Is that the report you're referring to?

MR. JENSEN: Yes.

MR. KOGUT: And the comparison that was drawn there I believe was not to atmospheric conditions in an underground mine. Isn't that correct? The statement the levels to which rats were subjected was three orders of magnitude higher than atmospheric conditions. I believe those atmospheric conditions were atmospheric conditions in the ambient atmosphere outside of mines.

MR. JENSEN: And that vis-a-vis, did not state where the -- where it was at. But it did talk about that we should not draw any conclusions from the rat study and because of the amount that they was exposed to, it could have been lung overload. It talks about that.

I don't have it right here in front of me, but it talks about the exposure being that a lot of the results was because of the way the testing was done and the amount that the rats was exposed to actually overloaded the lungs, and you know --

MR. KOGUT: You don't recall that they made any statement comparing the exposure levels for rats, as compared to exposure levels for underground coalminers?

MR. JENSEN: I don't know that it specifically related it with underground coalminers, as it did just to diesel particulate matter. It does state that it is based mostly on species. The rat species tend to develop the tumors, whereas other species may not even exposed to the same.

MR. TOMB: Bob?

MR. HANEY: Is Supco currently using filters on after treatment devices?

MR. JENSEN: All we use is water scrubbers.

MR. HANEY: I know at one time you did use filters. Do you know when they stopped using them?

MR. JENSEN: I don't know that Supco ever started using filters on our equipment. On our out by equipment, most of our out by equipment is equipment that is -- can be used, you know, in highway use. And we do have some that in some of our -- the scoops and that which is used in out by, but we do not have any filters on them, no.

MR. HANEY: Did you say what your specific occupation was at the mine?

MR. JENSEN: My specific occupation right now is safety and health supervisor or safety and compliance supervisor.

MR. HANEY: Thank you.

MR. TOMB: Anybody else? Thank you, Mr. Jensen

for your comments.

That pretty much concludes the names that I have on my list. Is there anybody that came in late and didn't sign the list, or anybody that would like to make or offer some additional comments at this time?

MR. OLSEN: Yes. My name is Bill Olsen. O-L-S-E-N. I'm safety director at Mount Coal Company's West Elk Mine in Somerset, Colorado.

MR. TOMB: I'm sorry. You're safety --

MR. OLSEN: Safety director.

MR. TOMB: Safety director. I'm sorry.

MR. OLSEN: We appreciate the opportunity to comment on the proposed rule for diesel particulate matter. Mountain Coal Company has approximately 290 employees, and the production of approximately six million tons in a consistent loss time and recordable incident rate far below the national average for underground bituminous coal mines.

Since the mine opened in 1982, diesel powered equipment has been used continuously for face harvest in mine outly support function, supply and transportation. In addition to utilizing non-mandated mission reducing testing technology, the company has participated in various diesel monitoring and evaluation programs coordinated by the Bureau of Mines and MSHA-sponsored workshops.

We fully support the development and use of proven

and competitive technology that will improve the overall health and safety of the miners.

For comments for part 72500, which requires permissible equipment to be equipped with a system capable of removing at least 95 percent of the diesel particulate matter, to our knowledge, only one manufacturer of diesel particulate filtration systems claimed his filtration system is capable of at least 95 percent effective removal. It's unknown whether or not this testing was in compliance with 30 CFR 7.89. Other particulate filter systems on the market may or may not meet the 95 percent removal criteria.

Ceramic filter systems have not performed well, from either a practical or efficiency standpoint. With the unknown capability of all the available filtration systems, it appears the regulation is forcing technology to comply with the standard that may not be achievable. If the one filtration system truly meets the proposed removal criteria, the regulation forces all companies to use a single system, thereby eliminating in competition.

With a single source, coal companies are at the mercy of the vendor in regards to price and availability. Once installed, operators may be reluctant to change to newer filtration systems due to the extensive costs associated with retrofitting the existing equipment, now in the range between 35,000 and 50,000 depending upon the size

of the engine.

Our current use of a wet scrubber and paper filter on permissible diesel equipment has reduced overall emissions in the working section. MSHA states in the preamble, that such a system is only capable of removing up to 90 percent of the diesel particulate matter.

If the intent of the regulation to improve overall health and safety of the miners, where it has some arbitrary reduction, that not being 95 percent. They can only be achieved by using a dry scrubber and paper filter. Had the dry scrubber and paper filter been proven effective at elevations above 6,000 feet without undue reduction on horsepower.

Had the dry scrubber and paper filter been proven to insure equivalent equipment availability? It’s our understanding that the dry scrubber and paper filter cannot effectively operate at higher elevations or operate for any extended period of time without major maintenance and equipment down time.

In regards to requiring the particular system on non-permissible equipment. With the existing technology, it appears that the regulation will require all heavy duty equipment to basically be permissible. Surface exhaust temperatures of existing, non-permissible equipment will not permit the safe use of paper filters. Therefore, heat

exchangers or equivalent means will need to be installed on all heavy duty non-permissible equipment.

In response to Part B on the testing requirement, if the engine is already emitting very low concentrations of diesel particulate matter, how can 95 percent efficiency removal be obtained? The efficiency of the filtration system is certainly dependent on the type and performance of the engine on which a filter system is used. Due to this dependency, a system may or may not achieve the 95 percent efficiency on other types of engines and even engines of the same type but with different performance characteristics.

In response to 72510, which is miner health training that requires covering the health risks associated with diesel particulate matter. The proposed rule could be interpreted that any miner who enters the property, regardless if it’s underground or at the surface of an underground coal mine, would have to be trained if they were exposed to the diesel emissions, no matter how short or long the duration may be, simply because they fall into the definition of miner. Such a requirement would create a significant burden on the operator due to the amount of time required to perform such training for people with very short or limited exposures.

As to the content of the training, which viewpoint of the controversial issue would be presented. What if the

operator chooses not to use the material that was supposedly being developed by MSHA? Has sufficient and after evidence then provided that consistently indicates diesel particulate is a health hazard. If so, at what concentration? And if at a certain concentration, how would the diesel particulate matter accurately measure?

In response to 72510A(3) which requires identification of personnel responsible for maintaining these controls. We feel that identifying individuals who are responsible for maintaining emission controls of the diesel powered equipment at a particular mine serves no useful purpose. Why are these individuals being singled out for the remaining workforce? We do not agree with giving out the names of individual miners to anyone who is simply exposed to diesel emissions at the mine.

As far as 72510A(4) on the action the miner must take to insure the controls operated as intended. We feel that the actions miners must take to insure the controls operate as intended, appears to be more accurate for task training, rather than broad-based training for individuals that are simply exposed to diesel particulates. If miners do not operate the equipment, such training should not be required.

As far as the mine ventilation plan, 75371, we feel that this is vague and overly burdensome. Requiring

information about the emission control or filtration system, may unnecessarily complicate the ventilation plan due to the volume of material that may be required to be included in the plan.

Exhaustive detailed technical specifications are not needed if it's to be easily understood by all miners. Addendums will need to be submitted for each new piece of equipment which would delay the use of the equipment due to the excessive lag time typically seen between the submittal date and the approval date. Loaner diesel equipment that's obtained from other mines or other vendors would not be able to be used until the addendum was approved. This delay could result in a diminution to safety to miners in specific cases, such as the retrieval of buried equipment due to earth falling.

Those are my comments.

MR. TOMB: Thank you. Any questions?

MR. HANEY: Mr. Olsen, are you currently using filters on your permissible equipment?

MR. OLSEN: Yes, it's a wet scrubber with a paper filter system.

MR. HANEY: Do you have any information related to cost? Did you retrofit those?

MR. OLSEN: Yes.

MR. HANEY: Do you have any information related to

the cost of retrofitting that equipment?

MR. OLSEN: I don't have that with me. That was given out at the workshop in Salt Lake, and the costs were covered. I do not have that with me.

MR. FORD: Is it possible to also supply that?

MR. OLSEN: I can provide that.

MR. FORD: Thank you.

MR. HANEY: You mentioned loaner equipment relative to the requirements of the ventilation plan. Do you also rent equipment for specific applications?

MR. OLSEN: Yes, that can be done.

MR. SASEEN: Mr. Olsen, you made the statement that I believe paper filters cannot operate at the higher altitudes. What altitude are you operating your machines at right now? Your water scrubbers and filters?

MR. OLSEN: No, my comment was, as the DST system, for example, improvement, we do operate with paper filters. Our portal is roughly at 6,700 feet. My question was on the other system that supposedly meets the 95 percent removal criteria.

MR. SASEEN: Okay. So, you're operating at 6,500 feet with the water scrubber filter -- paper filter combination?

MR. OLSEN: Yes.

MR. SASEEN: Okay.

MR. HANEY: And what horsepower were you running those engines?

MR. OLSEN: We run the 4114, so those are 150 rate at the 100 horsepower.

MR. SASEEN: I'm sorry. What was the rating?

MR. OLSEN: They are 3306 Cat engines, so they're rated at 150 horsepower. But at higher elevations, they'd be graded.

MR. SASEEN: Okay.

MR. FORD: When you supply the cost -- I mean, the data concerning the installation and purchase cost of the wet scrubbers and filters, can you also supply your annual maintenance costs?

MR. OLSEN: I don't know how that is necessarily broken down. I can see if that's available or not.

MR. FORD: If you have it. Thank you.

MR. TOMB: Could you clarify your comment on your interpretation of the proposed rule relative to giving out the names of everybody that's exposed to diesel particulate. I'm not sure I understood.

MR. OLSEN: Part of the law requires you to basically give out the name of the individual or individuals responsible for maintaining the diesel equipment.

MR. TOMB: To other people in your organization so they know?

MR. OLSEN: My understanding of that would require that anybody that falls under the definition of a minor exposed to that, it would fall in that category. So, that could be anybody that comes onto the property.

MR. TOMB: You mean -- okay, okay. It's your interpretation of really what means.

MR. OLSEN: If I singled out an individual miner.

MR. TOMB: Okay. Any other comments? Okay. Thank you very much.

MR. OLSEN: Thank you.

MR. TOMB: I'm sorry I didn't have your name on that list.

MR. OLSEN: No, I didn't sign up.

MR. TOMB: Oh, okay. I'm glad you came prepared, though.

Is there anybody else that would like to make comments before we close?

Okay. I have one request to make, a general comment from the panel here. Jon?

MR. KOGUT: A number of the commenters have expressed a preference for a performance-based standard as opposed to a design-based standard. And specifically stating that the rules that were put out in the Toolbox by specifying filters, that we weren't enabling mining companies to use all the tools in the Toolbox to me what

would be a performance-based standard.

And in view of that preference that's been expressed by several of the commenters, I want to reiterate a request that was made in the proposal on page 17495 of Federal Register 64 No. 68, in which we MSHA would welcome comments as to whether the Agency should also consider restricting exposure of underground coalminers to all fine particulates regardless of the source.

And the reason that I bring that up in this context, is that in view of the difficulties that MSHA has recognized in measuring diesel particulates, particularly in making specific measurements of diesel particulate in underground coal mines, I would recommend that comments in whatever post-hearing comments they might submit to us, would address the issue of how they would respond to a regulation which limited all fine particulates regardless of their source, which would perhaps be an easier thing for MSHA to measure.

And this is especially important I think in view of the fact that some of the health effects that have been identified not specific to diesel particulate, but seem to be associated with fine particulates in general. So, I would just like to make the request in the post-hearing comments that you might submit to address that question.

MR. TOMB: Any other questions? Okay. I would

like to personally close this meeting then, and thank you all for coming and participating. And if you want, I'd appreciate that if you haven't turned in comments in writing, and you will still have the opportunity to do that before February 16. And so, I wish that you take that opportunity if need be to get those comments in to us. Thank you.

(Whereupon, a 1:35 p.m., the hearing concluded.)

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REPORTER'S CERTIFICATE

DOCKET NO.: N/A

CASE TITLE: IN RE: COAL DIESEL PARTICULATE EXPOSURE

HEARING DATE: November 17, 1998

LOCATION: Salt Lake City, Utah

I hereby certify that the proceedings and evidence are contained fully and accurately on the tapes and notes reported by me at the hearing in the above case before the United States of Labor.

Date: November 17, 1998

Mardeane Neilson

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